**STATE OF MAINE**
**DEPARTMENT OF AGRICULTURE, CONSERVATION AND FORESTRY**
BOARD OF PESTICIDES CONTROL
28 STATE HOUSE STATION
AUGUSTA, MAINE 04333

**PAUL R. LEPAGE**
**GOVERNOR**

To: Board of Pesticides Control Members
From: Mary Tomlinson, Pesticides Registrar/Water Quality Specialist
RE: EPA Special Local Need (SLN) [FIFRA, Section 24(c)] application to approve the use of Sandea Herbicide, EPA Reg. No. 81880-18, to control perennial broadleaf weeds in lowbush blueberries in the non-bearing year

State Supplemental Special Local Need (SLN) [FIFRA, Section 24(c)] application to approve the use of Sandea Herbicide, EPA Reg. No. 81880-18-10163, to control broadleaf weeds in lowbush blueberries in the non-bearing year

Date: March 15, 2016
**********

Enclosed are the above referenced Special Local Needs (SLN) [FIFRA, Section 24(c)] application and supporting documents for your consideration.

Jasper Wyman and Son is requesting an SLN for Sandea Herbicide to control perennial broadleaf weeds in lowbush blueberry in the nonbearing year. Canyon Group/Gowan Company has supported a supplemental label for use in Maine for the past few years, but rescinded support due to phytotoxicity concerns. Gowan is proposing an SLN with more stringent language to reduce risk of phytotoxicity and to place the burden of risk on the grower.

The EPA only permits and approves issuance of an SLN on a primary product registration. However, states are permitted to issue a state supplemental SLN for a distributor product as long as an SLN for the primary product is first issued by the state and the basic registrant has approved the distributor's request for an SLN. Canyon Group has approved the supplemental SLN request by Gowan Company. Both the primary SLN and the state supplemental SLN for Sandea Herbicide are hereby submitted for the Board's approval.

Please review the attached documents and let me know if you have any questions.

- FIFRA, Section 24(c) application
- Letter of support from Niki Yepez, Registration Specialist, Canyon Group/Gowan Company
- Letter of support from Darin Hammond, Jasper Wyman & Son
- Sandea draft Maine SLN labels
- Sandea EPA label
- Sandea Section 3 label
- Sandea MSDS

**HENRY JENNINGS, DIRECTOR**
90 BLOSSOM LANE, DEERING BUILDING

PHONE: (207) 287-2731
WWW.THINKFIRSTSPRAYLAST.ORG

Form Approved. OMB No. 2070-0182 Approval expires 5-31-15

United States Environmental Protection Agency
Office of Pesticide Programs, Registration Division (7505C)
Washington, DC 20460

# Application for/Notification of State Registration of a Pesticide To Meet a Special Local Need

*(Pursuant to section 24(c) of the Federal Insecticide, Fungicide, and Rodenticide Act, as Amended)*

| For State Use Only |
|---|
| Registration No. Assigned: ME-160001 |
| Date Registration Issued: |

**1. Name and Address of Applicant for Registration**

Canyon Group LLC
C/O Gowan Company
PO BOX 5569
Yuma, AZ 85366-5569

**2. Product is (Check one)**

- [X] EPA-Registered — EPA Registration Number: 81880-18
- [ ] New (not EPA-registered) — Attach EPA Form 8570-4, Confidential Statement of Formula for new products. — EPA Company Number:

**3. Active Ingredient(s) in Product**

Halosulfuron

**4. Product Name**

Sandea Herbicide

**5. If this is a food/feed use, a tolerance or other residue clearance is required. Cite appropriate regulations in 40 CFR Part 180, 185, and/or 186.**

**6. Type of Registration (Give details in Item 13 or on a separate page, properly identified and attached to this form):**

- [ ] a. To permit use of a new product.
- [ ] b. To amend EPA registrations for one or more of the following purposes:
  - [X] (1) To permit use on additional crops or animals.
  - [ ] (2) To permit use at additional sites.
  - [ ] (3) To permit use against additional pests.
  - [ ] (4) To permit use of additional application techniques or equipment.
  - [ ] (5) To permit use at different application rates.
  - [ ] (6) Other (specify below)

**7. Nature of Special Local Need (check one)**

- [ ] There is no pesticide product registered by EPA for such use.
- [X] There is no EPA-registered pesticide product which, under the conditions of use within the State, would be as safe and/or as efficacious for such use within the terms and conditions of EPA registration.
- [ ] An appropriate EPA-registered pesticide product is not available.

**8. If this registration is an amendment to an EPA-registered product, is it for a "new use" as defined in 40 CFR 152.3 ?**

- [ ] Yes (discuss in Item 13 below)
- [X] No

**9. Has an EPA Registration or Experimental Use Permit for this chemical ever been (check applicable box(es), if known):**

- [ ] Sought
- [X] Issued
- [ ] Denied
- [ ] Cancelled
- [ ] Suspended
- [X] Registration
- [ ] Experimental Use Permit
- [ ] No Previous Permit Action

**10. Has FIFRA section 24(c) registration for this use of the product ever, by another State, been (check appropriate box(es), if known):**

- [ ] Sought
- [ ] Issued
- [ ] Denied
- [ ] Revoked

If any of the above are checked, list States in Item 13 below.

- [X] No FIFRA section 24(c) Action

**11. Endangered Species Act: (Give details in Item 13 or on a separate page, properly identified and attached to this form)**

Identify the counties where this pesticide will be used. If Statewide, indicate "all." Provide a list of Federally protected endangered/threatened species which occur in the areas of proposed use.

**Certification**

I certify that the statements I have made on this form and all attachments thereto are true, accurate, and complete. I acknowledge that any knowingly false or misleading statement may be punishable by fine or imprisonment or both under applicable law.

**12. Indicate use status of Special Local Need, i.e., planned dates of use:**

From: 03-01-2016 To: 12-31-2020

**Signature of Applicant or Authorized Representative**

Nikki Yaeger

Title: Registration Specialist

Telephone Number: 928-819-1516

Date: 2-12-2016

**13. Comments (attach additional sheet, if needed)**

**Determination by State Agency**

This registration is for a Special Local Need and is being issued in accordance with section 24(c) of FIFRA, as amended. To the best of our knowledge, the information above is correct, except as noted in "Comments" below or in attachments.

**Name, Title, and Address of State Agency Official**

Mary E. Tomlinson
Maine Board of Pesticides Control
28 State House Station
Augusta, ME 04333

Title: Pesticides Registrar/Water Quality Specialist

Telephone Number: 207-287-7544

Date:

**Comments (by State Agency Only)**

Expires December 31, 2020

**Received by EPA**

EPA Form 8570-25 (Rev. 5-12)

EPA COPY

Gowan
The Go To Company
P.O. Box 5569 • Yuma, AZ 85366 • Toll Free: 800.883.1844 ext. 2 • www.gowanco.com

February 16, 2016

Attention: Mary E. Tomlinson
Department of Agriculture
Maine Board of Pesticides Control
28 State House Station
Augusta, ME 04333

RE: Sandea Herbicide, EPA Reg. No. 81880-18, SLN Application ME-16XXXX for Blueberries.

Dear Mrs. Tomlinson:

Canyon Group is requesting a Special Local Need (SLN) ME-16XXXX, for use of Sandea (active ingredient Halosulfuron) on blueberries.

Wyman's of Maine supports this SLN. Sandea (a supplementally distributed product) is necessary to control many perennial broadleaf weeds which are not controlled by other herbicides on the market for the blueberry industry.

Canyon Group gives permission to Gowan Company to issue a supplemental SLN for Sandea, EPA Registration number 81880-18-1163, and to distribute the product to growers.

In support of this application, I have enclosed the following:

- Application for/Notification of State Registration of a Pesticide To Meet a Special Local Need (EPA Form 8570-25)
- Proposed SLN no. ME-16XXXX Canyon
- Proposed SLN no. ME-16XXXX Gowan Company

If I can provide further information or documentation please contact me at (928) 819-1516 or nryan@gowanco.com.

Kind regards,

Nikki Yepez
Regulatory Specialist

Wyman's of Maine

RECOMMENDED BY FUTURE GENERATIONS.

2/16/2016

Maine Board of Pesticide

28 State House Station

Augusta, Maine 04333-0028

Jasper Wyman & Son is pleased to support Sandea (Halosulfuron-methyl) as a 24 C registration for use on wild blueberries in Maine. We have been using this product for a number of years with great success to control perennial broadleaf weeds that are not controlled with the other herbicides available for use in our industry. We feel that this material is an essential tool to control these weeds, and also to help combat any resistance issues associated with other materials registered that have been used for many years. We have seen increases in our yield, and quality in fields treated with Sandea when the material is used properly. We would appreciate your support of this material as a tool to ensure that we can grow a safe sustainable and profitable crop in the future. Please feel free to contact me if you have any questions concerning Sandea.

Sincerely,

Darin Hammond

Darin Hammond

Senior Manager of Farm Operations
Jasper Wyman & Son

601 Route 193

Deblois, Maine 04622

Office 207-638-2201

# FIFRA

# Section 24(c) Special Local Need Label

## FOR DISTRIBUTION AND USE ONLY IN THE STATE OF MAINE

**This label for SANDEA herbicide expires and must not be distributed or used in accordance with this SLN registration after December 31, 2020.**

| GROUP | 2 | HERBICIDE |
|---|---|---|

# Sandea®
**Herbicide**

**EPA Reg. No 81880-18 EPA SLN NO. ME-16XXXX**

| **ACTIVE INGREDIENT:** | **% BY WT.** |
|---|---|
| Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl) -1-methylpyrazole-4-carboxylate | 75.0% |
| **OTHER INGREDIENTS** | 25.0% |
| **TOTAL** | 100.0% |

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

**DIRECTIONS FOR USE**

- It is a violation of federal law to use this product in a manner inconsistent with its labeling.
- This labeling must be in the possession of the user at the time of application.
- Follow all applicable directions, restrictions, Worker Protection Standard requirements, and precautions on the EPA registered label.

## DIRECTIONS FOR USE

**PREHARVEST INTERVAL**

The required days between last application and harvest are given in ( ) after each crop name.

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **13-07B LOWBUSH BLUEBERRIES (14)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 20 gal of water per acre. SANDEA should be tank mixed with products such as Velpar® Velossa (hexazinone ai's), or Sinbar® to broaden the spectrum of weeds controlled.<br>• **Vegetative (Non-Crop) Year**<br>• **Broadcast application <u>prior to breaking dormancy in the Spring, or after blueberries are completely dormant in the Fall</u> for control of labeled weeds.**<br>Apply SANDEA as a single broadcast spray application. Applications applied 1 to 2 months prior to breaking dormancy will allow for better weed control. |
| | **PRECAUTIONS:**<br>• Overlapping boom swaths increases the potential for phytotoxicity including leaf yellowing, reddening, and/or stunting<br>• Consult "Use Precautions" and "For Optimum Results" of label for important usage information.<br>• Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply when frost is in the ground.<br>• Do not apply to water saturated soils.<br>• Do not apply to blueberries after vegetative bud break.<br>• Do not apply to bushes established less than one year or to plants under stress.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not apply SANDEA after the crop has progressed into budbreak or significant injury will occur.<br>• Do not apply more than 1 application or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period. | |

24(c) Registrant: Canyon Group Company
P.O. Box 5569
Yuma, AZ 85366-5569

# FIFRA

# Section 24(c) Special Local Need Label

## FOR DISTRIBUTION AND USE ONLY IN THE STATE OF MAINE

**This label for SANDEA herbicide expires and must not be distributed or used in accordance with this SLN registration after December 31, 2020.**

| GROUP | 2 | HERBICIDE |
|---|---|---|

# Sandea®
**Herbicide**

**EPA Reg. No 81880-18-10163 EPA SLN NO. ME-16XXXX**

| **ACTIVE INGREDIENT:** | **% BY WT.** |
|---|---|
| Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl) -1-methylpyrazole-4-carboxylate | 75.0% |
| **OTHER INGREDIENTS** | 25.0% |
| **TOTAL** | 100.0% |

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

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24(c) Registrant: Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

October 27, 2015

Nikki Yepez
Domestic Regulatory Specialist
Canyon Group, LLC
c/o Gowan Company
P.O. Box 5569
Yuma, AZ 85366-5569

Subject: PRIA Label Amendment – Adding Pome Fruit Group 11-10 and Small Fruit Vine Climbing Subgroup 13-07F to Halosulfon-methyl
Product Name: Sandea Herbicide
EPA Registration Number: 81880-18
Application Date: July 18, 2015
Decision Number: 493337

Dear Ms. Yepez:

The application referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide and Rodenticide Act, as amended, is acceptable under FIFRA Section 3(c)(7)(A), subject to the following conditions:

1. You must submit and/or cite all data required for registration/reregistration/registration review of your product under FIFRA when the Agency requires all registrants of similar products to submit such data.

2. You are required to comply with the data requirements within the established deadlines described in the DCI identified below:

   Haolsulfuron-methyl- GDCI-128721-1213

   If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: http://www.epa.gov/oppsrrd1/contacts_prd.htm

A stamped copy of your labeling is enclosed for your records. This labeling supersedes all previously accepted labeling. You must submit one (1) copy of the final printed labeling before you release the product for shipment with the new labeling. In accordance with 40 CFR 152.130(c), you may distribute or sell this product under the previously approved labeling for 18 months from the date of this letter. After 18 months, you may only distribute or sell this product if it bears this new revised labeling or subsequently approved labeling. “To distribute or sell” is defined under FIFRA section 2(gg) and its implementing regulation at 40 CFR 152.3.

Should you wish to add/retain a reference to the company's website on your label, then please be aware that the website becomes labeling under the Federal Insecticide Fungicide and Rodenticide Act and is subject to review by the Agency. If the website is false or misleading, the product would be misbranded and unlawful to sell or distribute under FIFRA section 12(a)(1)(E). 40 CFR 156.10(a)(5) list examples of statements EPA may consider false or misleading. In addition, regardless of whether a website is referenced on your product's label, claims made on the website may not substantially differ from those claims approved through the registration process. Therefore, should the Agency find or if it is brought to our attention that a website contains false or misleading statements or claims substantially differing from the EPA approved registration, the website will be referred to the EPA's Office of Enforcement and Compliance.

Your release for shipment of the product constitutes acceptance of these conditions. If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). If you have any questions, please contact Shanta Adeeb by phone at 703-347-0502, or via email at adeeb.shanta@epa.gov.

Sincerely,

Daniel Kenny, Chief
Herbicide Branch
Registration Division (7505P)
Office of Pesticide Programs

Enclosure

| GROUP | 2 | HERBICIDE |
|---|---|---|

# Sandea® Herbicide

**SANDEA® is a selective herbicide for control of listed broadleaf weeds and nutsedge**

| **ACTIVE INGREDIENT:** | **% BY WT.** |
|---|---|
| Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl) -1-methylpyrazole-4-carboxylate | 75.0% |
| **OTHER INGREDIENTS** | 25.0% |
| **TOTAL** | 100.0% |

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

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

| **FIRST AID** | |
|---|---|
| IF IN EYES | • Hold eye open and rinse slowly and gently with water for 15-20 minutes.<br>• Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.<br>• Call poison control center or doctor for treatment advice. |
| IF SWALLOWED | • Call poison control center or doctor immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by the poison control center or doctor.<br>• Do not give anything to an unconscious person. |
| **HOT LINE NUMBER** | |
| Have the product container or label with you when calling poison control center, doctor or going for treatment. For emergency information concerning this product, call toll free 1-888-478-0798. | |

ACCEPTED
10/27/2015
Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 81880-18

**PRECAUTIONARY STATEMENTS**
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**
**CAUTION**

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

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

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.

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

**USER SAFETY RECOMMENDATIONS**

Users should:

- Wash hands before eating, drinking, chewing gum, using tobacco or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

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## NET CONTENTS _____ OUNCES

EPA Reg. No. 81880-18
EPA Est. No.

Gowan
The Go To Company

Produced For:
Canyon Group LLC.
C/O Gowan Company
PO Box 5569
Yuma, Arizona 85364

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

## AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

## PRODUCT INFORMATION

SANDEA is a dry flowable formulation that selectively controls certain broadleaf weeds and nutsedges in selected crops. SANDEA is effective both preemergence and postemergence. SANDEA can be absorbed through roots, shoots and foliage and is translocated within the plant.

## WEED RESISTANCE STATEMENT

Weeds can develop resistance to herbicides. Some weed biotypes have inherent resistance to certain herbicides. Also, repeated use of herbicides with similar modes of action can result in the development of resistance in weed populations. SANDEA, a member of the sulfonylurea family, is an ALS enzyme inhibiting herbicide. To minimize the potential for resistance development and/or to control resistant weed biotypes, use a variety of cultural, mechanical, and chemical weed control tactics. Rotate with herbicides having different modes of action (e.g. non-ALS/AHAS materials). Contact your professional crop advisor, local cooperative extension specialist, or Canyon Group representative for additional information.

## APPLICATION EQUIPMENT AND INSTRUCTIONS

**Ground Applications**:
SANDEA can be applied as a broadcast or band application. For band applications, use proportionally less spray mixture based on the area actually sprayed. Do not concentrate the band. Consult the "APPLICATION INSTRUCTIONS" section of this label for the rates and procedures that are appropriate for your growing region.

Apply SANDEA in a spray volume that ensures thorough and uniform coverage. Use of 15 or more gal of water per acre is recommended unless otherwise directed in the "APPLICATION INSTRUCTIONS" section. Choose nozzles that provide optimum spray distribution and coverage to the target weed at the appropriate pressure (psi). Avoid streaking, skips, overlaps, and spray drift during application. Thoroughly clean equipment prior to mixing spray solution. Follow the clean-up procedures on the labels of applied products. If no directions are provided, follow the 6 steps outlined in the "Sprayer Tank Cleanout" section .

**Rope-wick or Wiper Applications:**
Apply by wiping SANDEA to the weeds using an absorbent material made of burlap, canvas, rope, or sponge plumbed into a pipe reservoir filled with SANDEA. The applicator device will physically wipe this product directly onto the weed in between rows of crop plants (row middles) or over the top of crops for selectively controlling weeds. Selected equipment must be capable of preventing all contact of the herbicide solution with the crop.

Prior to all rope wick applications each individual unit/equipment must be calibrated with the specific material to be applied to ensure accurate application.

For rope and sponge wick applicators use approximately 4 – 6 grams of SANDEA per acre in 2 1/2 gal of water.

Adjust the height of the wiper applicator to ensure adequate contact with the weeds and so that no wiper contact point is at least 2 inches above the desirable vegetation. Optimum performance can be obtained when more of the weed is exposed to the herbicide solution and weeds are a minimum of 6 inches above the desirable vegetation. Weeds that do not come in contact with SANDEA will not be affected. Poor contact occurs when weeds are growing in dense clumps, in areas of severe weed infestation, when weed height varies dramatically or when operator speeds are too great. Terrain must be considered when making wiper applications. Sloping ground can cause herbicide solution to migrate to one side, causing dripping on the lower end and drying of the wiper on the upper end of the applicator. Due to decreased efficacy do not apply this product when weeds are wet.

Operate wiper applicators at a ground speed of no greater than 5 miles per hour. To maintain performance applicator should control chemical application rate by adjusting travel speed to match weed density. In areas of dense weeds better results can be obtained when two applications are made in opposite directions.

Mix only the amount of product that will be used during a 1-day application, as reduced product performance can occur from solutions held longer than 24 hours. Avoid spray mist escape, leaks, or dripping of the herbicide solution onto the crop as contact of this product to desirable vegetation could result in plant injury or destruction. Keep wiper surfaces clean. Clean wiper parts promptly after using SANDEA by thoroughly flushing with water.

When using a surfactant refer to the adjuvants section of this label.

**Aerial Applications:**
Apply this product or approved tank mixtures with properly calibrated equipment in 3 to 15 gal of water per acre.
Thoroughly clean equipment prior to mixing spray solution. Avoid streaking, skips, overlaps, and spray drift during applications.

**Spray Drift Management:**
AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. Do not allow this product to drift onto neighboring crops or non-crop area or use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues or other undesirable results may occur. The interaction of many equipment – and weather – related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they must be observed. The following drift management directions minimize off-target drift movement from aerial applications to agricultural field crops. These requirements do not apply to forestry applications or to applications using dry formulations.

1. The distance of the outer most nozzles on the boom should not exceed 3/4 the length of the wingspan or rotor.
2. Point nozzles backward parallel with the air stream, never point downwards more than 45 degrees. Where states have more stringent regulations, they must be observed.

The importance of spray 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 may not prevent drift if applications are made improperly or under unfavorable environmental conditions (see the following "Wind", "Temperature and Humidity", and "Temperature Inversion" sections of this advisory).

Controlling initial droplet size:
- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher flow rates 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 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 the spray stream is released backwards, parallel to the air stream will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types.

Controlling placement of spray droplets:
- **Boom length -** 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 -** Applications should not be greater than 10 feet above the top of the tallest plants unless a greater height is required for aircraft safety. Greater application heights result in greater droplet size reduction through evaporation and greater movement in air currents. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Application speed -** Slower aircraft speeds within a safe range will produce less air turbulence and fewer small droplets.
- **Swath adjustment** - 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 must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distances should increase with increasing drift potential (wind speed, droplet size, etc.).

Key environmental factors:
- **Wind -** Drift potential is the lowest between wind speeds of 2 to 10 mph. However, many factors including droplet size and equipment type determine drift potential at any given speed. Application should be avoided when wind speeds are below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Applicators should be familiar with local wind patterns and how they affect 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 air currents that are 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 detector. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

Sensitive areas:
Pesticides 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).

Thoroughly clean application equipment immediately after the use of SANDEA. Prepare a tank cleaning solution that consists of a 1% solution of household ammonia (one quart of ammonia for every 25 gal of water). Use sufficient cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Repeat the procedure with the ammonia solution. Complete the cleaning process by rinsing with clean water.

## MIXING INSTRUCTIONS

Fill the spray tank to about three-fourths of the desired volume and begin agitation. Add the labeled amount of SANDEA. Complete the filling process while maintaining agitation. Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source. Add nonionic surfactant (NIS) and other adjuvants as the last ingredients in the tank. Spray solutions should be applied within 24 hours after mixing.

## ADJUVANTS

Unless otherwise stated, a NIS is recommended in the spray solution for postemergence applications or for preemergence applications where susceptible weeds are present prior to crop emergence. Use only nonionic-type surfactants that are approved for use on food crops and contain at least 80% active ingredients. Use 0.25 to 0.50% nonionic-type surfactant concentration (1 to 2 quarts per 100 gal of spray solution). Use of SANDEA without an adjuvant when weeds are present may result in reduced efficacy. Use of crop oil concentrate (COC) or silicone-based adjuvants can result in increased crop injury and reduced yields and are not recommended for postemergence applications over the crop, unless stated otherwise.

## TANK MIXES

Unless stated in the "Application Instructions" section or allowed by supplemental labeling, tank mix combinations have not been evaluated and are the user's responsibility. It is the pesticide user's responsibility to ensure that all products in the listed mixtures are registered for the intended use (For Example: first aid from one product, spray drift management from another). Users must follow the most restrictive directions and precautionary language of the products in the mixture. It is recommended that tank mixtures should be evaluated for miscibility and crop safety on a small test area prior to use. Tank mixtures should not be applied when the plants are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels) or other poor growing conditions.

## SPRAYER TANK CLEANOUT

To avoid injury to desirable crops, clean all mixing and spray equipment before and immediately following applications of SANDEA as follows:
1. Drain tank; thoroughly rinse spray tank, boom, and hoses with clean water. Remove the nozzles and screens and clean separately in a bucket containing agent and water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gal of household ammonia* (containing 3% ammonia) for every 100 gal of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Again flush the hoses, boom, and nozzles with the cleaning solution and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing agent and water.

4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. The rinsate may be disposed of on-site or at an approved disposal facility.

* Equivalent amount of an alternate strength ammonia solution can be used in the clean out procedure. Carefully read and follow the individual cleaner instructions.

**USE PRECAUTIONS**

- Excessive amounts of water (greater than 1 inch) from rainfall or sprinkler irrigation soon after a preemergent application may cause crop injury. This potential injury can be enhanced if seeding depth is too shallow.
- Within 4 hours of a SANDEA application, avoid using overhead sprinkler irrigations or making applications when conditions favor rainfall.
- Properly crowned beds may minimize the potential for injury when broadcast applications of SANDEA are made over plastic mulch. Significant crop injury could result when spray residue is concentrated in the plant hole by irrigation or rainfall.
- SANDEA can cause injury or crop failure under cool and wet growing conditions that delay early seedling emergence, vigor or growth. Be especially cautious during the first planting of the season when these conditions are likely to occur.
- SANDEA may delay maturity of treated crops.
- SANDEA should not be applied if the crop or target weeds are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels) or other poor growing conditions.
- Use of soil or foliar-applied organophosphate insecticides on SANDEA treated crops may increase the potential for crop injury and/or the severity of the crop injury.
- Avoid spray drift outside of targeted area.
- SANDEA may be applied to labeled crops (including cultivars and/or hybrids of these*)* and used according to labeled directins. Not all hybrids/varieties have been tested for sensitivity to SANDEA. For untested varieties, a small amount of the field should be sprayed to determine potential sensitivity to its use.
- Thoroughly clean application equipment immediately after SANDEA use and prior to spraying another crop.
- Temporary yellowing or stunting of the crop may occur following SANDEA applications.
- Crop rotation intervals may need to be extended on drip irrigated crops in CA and AZ due to environmental conditions.
- Under certain environmental conditions, SANDEA applied over the top of a blooming crop may result in some bloom loss.
- Use of SANDEA without an adjuvant can result in reduced efficacy.

**USE RESTRICTIONS**

- Do not apply SANDEA using air assisted (air blast) field crop sprayers.
- Do not apply this product through any type of irrigation system.
- Do not apply more than 2 oz of SANDEA per acre per 12 month period (includes applications to the crop and to row middles/furrows).
- Do not make more than the maximum number of applications per year for each crop.
- CALIFORNIA ONLY SENSITIVE CROP:

**PRUNES**

**Buffer Zones:**

1. Aerial applications shall not be made closer than 4 miles.
2. Ground applications shall not be made closer than 1 mile from prunes unless wind direction during the application is away from prunes. When wind direction during the ground application is away from prunes, ground applications shall not be made closer than 1/2 mile from prunes.

**COTTON**

**Buffer Zones**:

1. Aerial applications shall not be made closer than 1 mile from cotton.
2. Ground applications shall not be made closer than 1 mile from cotton unless wind direction during the application is away from cotton. When wind direction during the ground application is away from cotton, ground applications shall not be made closer than 1/2 mile from cotton.

**FOR OPTIMUM RESULTS**

Control typically occurs within 7 to 14 days depending on the weed size, species and growing conditions. Heavy weed infestations should be treated early before the weeds become too competitive with the crop. Good coverage with SANDEA is essential. When applying SANDEA follow “Weed Controlled Chart” and “Applicatin Timing” sections of the label for improved control. When adding approved adjuvant follow mixing instructions regarding adjuvant.

- For best results, wait to cultivate treated soil area for 7 to 10 days after a postemergence application of SANDEA unless otherwise specified. (Cultivation may be necessary to control suppressed weeds, weeds that were bigger than the maximum recommended size at application, weeds that emerge after an application, or weed species not on the SANDEA label).
- To maximize control of annual weeds, it may be necessary to use sequential applications of SANDEA, but do not make more than the maximum number of applications per year for each crop. (Multiple flushes of seedlings, or treated perennials may sometimes re-grow from underground stems or roots).

**For preemergence applications:**

- use a surfactant as directed in the “Adjuvants” section of this label to control susceptible weeds prior to crop emergence,
- Preemergent weed control may be improved by incorporating SANDEA with irrigation (1/4 to 1/2 inch maximum).
- Preemergence applications of SANDEA when weed coverage prevents contact with the soil will result in reduced or no residual activity.

**For postemergence applications:**

- Treat young actively growing broadleaf weeds 1 to 3 inches in height.
- Treat actively growing nutsedge plants at the 3 to 5 leaf stage.
- Wait 2 - 3 days after postemergent applications for to overhead irrigation.
- Avoid applications when crops are under drought, stress, disease, or insect damage.

**WEEDS CONTROLLED BY SANDEA ALONE**

C = Control, S = Suppression, NA = No Activity

| WEED SPECIES | PREEMERGENT ACTIVITY | POSTEMERGENT ACTIVITY |
|---|---|---|
| Amaranth, spiny[2] *Amaranth spinosus* | C[2] | C[2] |
| Bindweed *Calystegia sepium* | NA | S |
| Burcucumber *Sicyos angulatus* | NA | S |
| California arrowhead[3] *Sagittaria montevidensis* | NA | C[3] |
| Chickweed, common *Stellaria media* | C | NA |
| Cocklebur, common *Xanthium strumarium* | C | C |
| Corn spurry *Spergula arvensis* | C | C |
| Dayflower* *Commelina erecta* | C | S |
| Deadnettle, purple *Lamium purpureum* | C | NA |
| Devils Claw *Proboscidea louisianica* | NA | C |
| Eclipta* *Ecilpta prostrata* | C | S |
| Flatsedge, rice*[2] *Cyperus iria* | S[2] | C[2] |
| Fleabane, Philadelphia *Erigeron philadelphicus* | NA | C |
| Galinsoga *Galinsoga* | C | C |
| Golden crownbeard* *Verbesina encelioides* | NA | C |
| Goosefoot *Chenopodium californicum* | C | C |
| Groundsel, common *Senecio vulgaris* | C | NA |
| Horseweed/Marestail[2] *Erigeron canadensis* | C[2] | NA |
| Horsetail *Equisetum arvense* | NA | S |
| Jimsonweed *Datura stramonium* | C | NA |
| Jointvetch *Aeschynomene virginica* | NA | C |
| Kochia[2] *Kochia scoparia* | C[2] | S[2] |
| Ladysthumb *Polygonum persicaria* | C | C |
| Lambsquarter, common *Chenopodium album* | C | NA |
| Lettuce, prickly *Lactuca serriola* | C | NA |
| Mallow, common *Malva neglecta* | C | NA |
| Mallow, Venice *Hibiscus trionum* | C | C |
| Mayweed chamomile (dog fennel) *Anthemis cotula* | C | NA |
| Milkweed, common *Asclepias syriaca* | NA | S |

| WEED SPECIES | PREEMERGENT ACTIVITY | POSTEMERGENT ACTIVITY |
|---|---|---|
| Milkweed, honeyvine *Ampelamus albidus* | NA | S |
| Morningglory, ivyleaf[3] *Ipomoea hederacea* | NA | S[3] |
| Morningglory, tall[3] *Ipomoea purpurea* | NA | S[3] |
| Mustard, wild *Sinapis arevensis* | C | C |
| Nutsedge, yellow[1] *Cyperus exculentus* | S | C[1] |
| Nutsedge, purple[1] *Cyperus rotundus* | S | C[1] |
| Passionflower, maypop *Passiflora incarnata* | NA | C |
| Pigweed, redroot[2] *Amarunthus retrofiexus* | C[2] | C[2] |
| Pigweed, smooth[2] *Amaranthus hybridus* | C[2] | C[2] |
| Plantain *Plantago major* | C | NA |
| Pokeweed, common *Phytolacca Americana* | NA | C |
| Purslane *Portulaca oleracea* | S | NA |
| Radish, wild *Raphanus raphanistrum* | C | C |
| Ragweed, common[2] *Ambrosia artemisiifolia* | C[2] | C[2] |
| Ragweed, giant[2] *Ambrosia trifida* | NA | C[2] |
| Redstem[3] *Ammania auriculata* | NA | C[3] |
| Ricefield Bulrush[2] *Scirpus mucronatus* | NA | C[2] |
| Sesbania, hemp *Sesbania exaltata* | S | C |
| Shepherdspurse *Capsella bursa-pastoris* | C | S |
| Sida, prickly* *Sida spinosa* | NA | S |
| Smallflower umbrella sedge[2] *Cyperus difformis* | NA | C[2] |
| Smartweed, Pennsylvania *Polyfonum pennsylvanicum* | C | S |
| Sunflower *Helianthus annuus* | C | C |
| Velvetleaf *Abutilan theophrasti* | C | C |
| Willowherb *Epilobium ciliatum* | C | NA |
| Yellowcress, creeping *Rorippa sylvestris* | C | C |

* Except California

1. Heavy infestations of nutsedge may require sequential applications. An earlier treatment may be required to prevent nutsedge from competing with the crop.
2. Certain biotypes of this weed species are known to be resistant to ALS herbicides. Where these ALS-resistant biotypes are known to exist, an appropriate registered herbicide, active against the weed and with another mode of action, should be used alone or in tank mixtures with SANDEA to control these biotypes.
3. Use maximum label rates for best results.

**Table of Contents**

## APPLICATION INSTRUCTIONS

### PREHARVEST INTERVAL

The required days between last application and harvest (PHI) are given in ( ) after each crop name.

### CUCURBIT CROPS

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **CUCUMBERS (30)** *(including pickles)* **CANTALOUPES (57), HONEYDEWS (57), AND CRENSHAW MELONS (57)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>**Direct-seeded: Bare ground (no mulch)**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached at least 3 to 5 true leaves but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop.<br>**Direct-seeded: Plastic mulch**<br>• **Pre-seeding -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Crop may be seeded into this treated area no sooner than 7 days after application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has at least 3 to 5 true leaves but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop. Additional phytotoxicity may occur when applications are made over plastic due to concentration of product in the planting hole. Note: Over-the-top applications on plastic are not allowed in Northeastern and Midwestern states.<br>**Transplanted: Bare ground (no mulch)**<br>• **Pre-transplant -** Apply SANDEA as a pre-transplant application. Crop may be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA-treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established and actively growing. Applications should not be made until plants are actively growing and in the 3 to 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. SANDEA may be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop.<br>**Transplanted: Plastic mulch**<br>• **Pre-transplant -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Crop may be transplanted into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA-treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established, actively growing and in the 3 to 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. Apply SANDEA as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop. Additional phytotoxicity can occur when applications are made over plastic due to concentration of product in the transplant hole. Note: Over-the-top applications on plastic are not allowed in Northeastern and Midwestern states. |
| | | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | | **Split Applications for Nutsedge:**<br>• **Preemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence application to those areas where the nutsedge has emerged later following a preemergence application. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 1.0 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. Avoid contact of the herbicide with the planted crop.<br>• **Postemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Allow a minimum of 21 days between applications. Application rate should not exceed 1.0 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. Avoid contact of the herbicide with the planted crop. |
| | **PRECAUTIONS:**<br>• Runners that come in contact with the plastic can pick up residual SANDEA and may exhibit a visual crop response.<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. (includes applications to the crop and to row middle/furrows) | |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **PUMPKINS and WINTER SQUASH(30)** | 1/2 - 3/4 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre. For all applications where possible, apply 1/2 to 3/4 inch of sprinkler irrigation to settle the soil after planting and prior to application.<br>**Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rates on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached the 2 to 5 true leaf stage, preferably 4 to 5 true leaves, but before first female flowers appear. Use lower rates on lighter textured soils with low organic matter.<br>**Transplanted:**<br>• **Pre-transplant -** Apply SANDEA prior to transplant. Crop may be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA-treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established, actively growing and in the 3 to 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application or with crop shields to minimize contact of the herbicide with the crop. |
| | 1/2 - 1 | Apply uniformly as a broadcast spray with ground equipment in a minimum of 15 gal of water per acre.<br>**FOR PROCESSING ONLY - Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rates on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached the 2 to 5 true leaf stage, but before first female flowers appear. Use lower rates on lighter textured soils with low organic matter. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• When rainfall or irrigation in excess of 3/4 inch occurs following a preemergence application and the crop is in the germination to early-seedling stage, there is the potential for significant plant stunting to occur.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications of 1 oz/A or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. (includes applications to the crop and to row middles). | |
| **SUMMER SQUASH FOR PROCESSING (30)**<br><br>**(AR, OK and MO only)** | 2/3 - 1 | Apply uniformly with ground equipment in a minimum of 20 gal of water per acre.<br>**Direct-seeded:**<br>• **Preemergence -** Apply SANDEA after planting, but prior to cracking. Use the lower rate on lighter textured soils with low organic matter. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications -** Apply SANDEA between rows of direct-seeded or transplanted summer squash. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. Avoid contact of the herbicide with the planted crop. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage Information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications of 1 oz/A or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. (includes applications to the crop and to Row Middle/Furrows) | |
| **WATERMELONS (57)**<br><br>**Only: AL, AR, AZ, CA, CT, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, OR, PA, RI, SC, TN, TX, VA, VT, WA, WV, WI** | 1/2 - 3/4 | Apply uniformly with ground equipment in a minimum of 20 gal of water per acre.<br>**Direct-seeded: Bare ground**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter. Where soil is fumigated prior to planting, allow at least five days after soil fumigation before an application of SANDEA.<br>**Direct Seeded: Plastic mulch**<br>• **Pre-seeding -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Watermelons should be seeded into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. SANDEA treated soil from the soil surface into the planting hole can result in crop injury. Care should be taken to limit movement of SANDEA treated surface soil during the transplant process.<br>**Transplanted: Bare ground**<br>• **Pre-transplant -** Apply SANDEA pre-transplant. Watermelons should be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA-treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur. |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **WATERMELONS (57)**<br><br>**Only: AL, AR, AZ, CA, CT, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, OR, PA, RI, SC, TN, TX, VA, VT, WA, WV, WI (continued)** | 1/2 - 3/4 | **Transplanted: Plastic mulch**<br>• **Pre-transplant -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Watermelons should be transplanted into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop, while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Runners that come in contact with the plastic can pick up residual SANDEA and may exhibit a visual crop response.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period. (includes applications to the crop and to row middle) | |
| **OTHER COMMODITIES IN THE CUCURBIT VEGETABLES GROUP** *Including but not limited to summer squash, gourd, watermelon* **(See text for PHI)** | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• Row Middle/Furrow Applications - Apply SANDEA between rows of direct-seeded or transplanted cucurbit vegetables while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply within 30 days of harvest for squash/cucumber subgroup.<br>• Do not apply within 57 days of harvest for melon subgroup.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. | |

**FRUITING VEGETABLE CROPS**

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **PEPPERS, BELL/CHILE (30)**<br><br>**AZ, CA, NM, TX and OK Only** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 20 gal of water per acre.<br>**Direct-seeded:**<br>• **Postemergence** - Apply SANDEA as a directed spray 28 days after planting or when the plants have reached a minimum of six inches in height, but prior to flowering. Use lower rates on lighter textured soils with low organic matter.<br>**Transplanted:**<br>• **Post-transplant -** Apply SANDEA as a directed spray 21 days after transplanting or when the plants have reached a minimum of six inches in height, but prior to flowering. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications -** Apply SANDEA between rows of direct-seeded or transplanted peppers while avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Not all pepper varieties have been tested.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. (includes applications to the crop and to row middle/furrows). | |
| **TOMATOES (30)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 20 gal of water per acre.<br>**Direct-seeded:**<br>• **Postemergence -** Apply SANDEA over-the-top once tomatoes have reached the 4 leaf stage through 30 days prior to harvest. Applications following bloom could cause some bloom drop under certain environmental conditions. Apply as a directed spray or with crop shield when these conditions are present.<br>**Transplanted:**<br>• **Pre-transplant on Bareground -** Apply SANDEA as a pre-plant application to bareground. Tomatoes can be transplanted into this treated area 7 days after the application unless local conditions demonstrate safety at an earlier interval. Use lower rate on lighter textured soils with low organic matter. SANDEA treated soil from the soil surface into the transplant hole can result in crop injury. Care should be taken to limit the movement of treated surface soil during the transplant process.<br>• **Pre-transplant Under Plastic Mulch Applications -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Tomatoes can be transplanted into this treated area 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. SANDEA treated soil from the soil surface into the transplant hole can result in crop injury. Care should be taken to limit movement of SANDEA treated surface soil during the transplant process. |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **TOMATOES (30) (continued)** | 1/2 - 1 | • **Post-transplant -** Apply SANDEA over-the-top, post directed or with crop shields to tomato transplants that are established, actively growing and a minimum of 14 days after transplanting unless local conditions demonstrate safety at an earlier interval. Applications following bloom could cause some bloom drop under certain environmental conditions. Application as a directed spray or with crop shields should be considered when conditions are present.<br>**Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.<br>**<u>Split Applications for Nutsedge</u>**<br>**Direct-seeded and Transplant:**<br>• **Pre-transplant followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence application to those areas where the nutsedge has broken through the plastic mulch. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. SANDEA treated soil in the transplant hole may result in crop injury. If transplanting after herbicide application, care should be taken to limit movement of SANDEA treated soil during the transplant process.<br>• **Postemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence spot application to those areas where the nutsedge has germinated or regrown. Allow a minimum of 21 days between applications. Application rate should not exceed 1 oz product per treated acre in these areas. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. (Includes applications to the crop and to row middles/furrows). | |
| **FRUITING VEGETABLES GROUP (30)** ***Including but not limited to eggplant, peppers, tomatoes*** | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted fruiting vegetables while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. | |

**PERMANENT CROPS**

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **13-07B BUSHBERRY SUBGROUP (14)** (excluding lowbush blueberries) | 1/2 - 2/3 1 - 4 year bushes<br><br>1/2 -1 >4 year bushes | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>Apply as a directed spray application to the ground on either side of the row.<br>• **Preemergence and Postemergence directed application for control of labeled weeds:** Apply SANDEA as a single or sequential directed spray application. If small weeds are present tank mix with a postemergence broad-spectrum type herbicide to maximize and enhance the spectrum of broadleaf and grass control. Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity<br>• **Postemergence directed application for control of nutsedge:** Apply SANDEA as a single directed spray application when nutsedge is fully emerged. Alternatively, two directed spray applications can be made. Apply first directed spray application to the initial nutsedge flush when it has reached the 3 to 5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize control, apply SANDEA when nutsedge plants are in the 3 to 5 leaf stage. For best results, use a minimum of 0.75 oz/A of SANDEA. SANDEA may not control ALS resistant weeds. |
| | **PRECAUTIONS:**<br>• Contact of SANDEA with the blueberry bushes should be avoided. Contact will result in temporary chlorosis of treated leaves.<br>• Use of a shielded boom is recommended.<br>• Consult "Use Precautions" and "For Optimum Results" of label for important usage information.<br>**RESTRICTIONS:**<br>• Minimum of 45 days between applications.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to bushes established less than one year or to plants under stress.<br>• Do not apply to 'Elliott' variety bushes established less than four years.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not contact foliage or green wood renewal canes with SANDEA. Herbicide uptake via contacted foliage or green canes will result in plant injury.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. | |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **13-07B LOWBUSH BLUEBERRIES (14)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre. SANDEA should be tank mixed with products such as Velpar® or Sinbar® to broaden the spectrum of weeds controlled.<br>• **Vegetative (Non-Crop) Year**<br>• **Broadcast application <u>prior to breaking dormancy</u> for control of labeled weeds**<br>Apply SANDEA as a single broadcast spray application. If small weeds are present tank mix with a postemergence herbicide to maximize and enhance the spectrum of broadleaf and grass control. Applications applied 1 to 2 months prior to breaking dormancy will allow for better weed control. |
| | **PRECAUTIONS:**<br>• Overlapping boom swaths increases the potential for phytotoxicity including leaf yellowing, reddening, and/or stunting<br>• Consult "Use Precautions" and "For Optimum Results" of label for important usage information.<br>• Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply to bushes established less than one year or to plants under stress.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not apply SANDEA after the crop has progressed into budbreak or significant injury will occur.<br>• Do not apply more than 1 application or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period. | |
| **13-07A CANEBERRY SUBGROUP (14)** (Blackberry; loganberry; raspberry, black and red; wild raspberry; cultivars, varieties and/or hybrids of these) | 1/2 - 1 (East of the Rockies)<br><br>3/4 - 2 (West of the Rockies) | Apply SANDEA uniformly with ground equipment in a minimum of 15 gal of water per acre.<br><br>Apply as a broadcast application to the ground on either side of the row. Applications of SANDEA should be made prior to primocane emergence or after cane burning.<br>• **Pre Emergence and Post Emergence directed application for control of labeled weeds:** Apply a single or sequential application based on weed pressure. If small weeds are present tank mix with a postemergence broad-spectrum type herbicide to maximize and enhance the spectrum of broadleaf and grass control.<br>For pre-emergence control, do not apply SANDEA if excessive weed growth prevents contact with the ground.<br>• **Post Emergence directed application for control of nutsedge:** Apply SANDEA as a single directed spray application when nutsedge is fully emerged. Alternatively, two directed spray applications can be made. Apply first directed spray application to the initial nutsedge flush when it has reached the 3 to 5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize control, apply SANDEA when nutsedge plants are in the 3 to 5 leaf stage. For best results, use a minimum of 0.75 oz/A of SANDEA. |
| | **PRECAUTIONS:**<br>• For best results, use a non-ionic surfactant (NIS) with applications.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>• Contact of of SANDEA with the caneberry bushes should be avoided. Contact will result in temporary chlorosis of treated leaves.<br>• Use of a shielded boom is recommended.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Minimum of 45 days between applications.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not apply to bushes established less than one year or to plants under stress.<br>• Do not contact foliage or green wood renewal canes with SANDEA. Herbicide uptake via contacted foliage or green canes will result in plant injury.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period.<br>• Do not apply by air. | |
| **13-07F SMALL FRUIT VINE CLIMBING SUBGROUP EXCEPT FUZZY KIWIFRUIT (14) (East of the Rockies)** Amur river grape; gooseberry; grape; kiwifruit, hardy; maypop; schisandra berry; cultivars, varieties, and/or hybrids of these | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>• **Preemergence and Postemergence directed application for control of labeled weeds:** Apply SANDEA as a single or sequential directed spray application to the ground on either side of the row. If small weeds are present, tank mix with a postemergence broad-spectrum type herbicide to maximize and enhance the spectrum of broadleaf and grass control.<br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity.<br>• **Postemergence directed application for control of nutsedge:** Apply SANDEA as a single directed spray application to the ground on either side of the row when nutsedge is fully emerged. Alternatively, two directed spray applications can be made. Apply first directed spray application to the initial nutsedge flush when it has reached the 3-5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize control, apply SANDEA when nutsedge plants are in the 3-5 leaf stage. For best results, use a minimum of 0.75 ounces per acre of SANDEA. |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **13-07F SMALL FRUIT VINE CLIMBING SUBGROUP EXCEPT FUZZY KIWIFRUIT (14) (East of the Rockies) (continued)** | | **PRECAUTIONS:**<br>• For best results, use a NIS with postemergence applications.<br>• Consult "Use Precautions" and "For Optimum Results" sections of label for important usage information.<br>• Contact of SANDEA with the grape vines should be avoided. Contact will result in leaf chlorosis and distortion with possible shortening of shoot internodes.<br>• Use of a shielded boom is recommended.<br>• SANDEA may not control ALS-resistant weeds.<br>**RESTRICTIONS:**<br>• Minimum of 45 days between applications.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to vines established in a permanent vineyard for less than one year or to plants under stress.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not contact foliage with SANDEA Herbicide. Uptake via contacted foliage will result in plant injury.<br>• Do not apply to nursery stock.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |
| **11-10 POME FRUIT GROUP (14) (West of the Rockies)** Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these | 3/4 - 2 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>• **Postemergence application for control of nutsedge:** Apply SANDEA as a single broadcast application to orchard floor on either side of the row when nutsedge is fully emerged (early – midsummer). Alternatively, two applications can be made. Apply first application to the initial nutsedge flush when it has reached the 3-5 leaf stage. If a second treatment is needed, apply SANDEA later in the season directed to secondary nutsedge emergence. To maximize nutsedge control, do not apply if nutsedge has exceeded 12 inches in height.<br>• **Preemergence and Postemergence application for control of labeled broadleaf weeds:** Apply SANDEA as a single or sequential broadcast application to orchard floor on either side of the row based on weed pressure. If small weeds are present, to maximize and enhance the spectrum of broadleaf control tank mix with a postemergence broad spectrum type herbicide.<br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity. |
| | | **PRECAUTIONS:**<br>• For best results, use a NIS or penetrating type surfactant.<br>• Avoid spray contact with tree foliage and fruit with spray or drift.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply when orchard temperatures exceed 85°F at the time of application.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to trees established in a permanent orchard less than one calendar year.<br>• Do not apply to nursery stock.<br>• Minimum of 45 days between applications..<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |
| **11-10 POME FRUIT GROUP (14) (East of the Rockies)** (Apple; azarole; crabapple; loquat; mayhaw; medlar; pear; pear, Asian; quince; quince, Chinese; quince, Japanese; tejocote; cultivars, varieties, and/or hybrids of these) | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>• **Postemergence application for control of nutsedge:** Apply SANDEA as a single broadcast application to orchard floor on either side of the row when nutsedge is fully emerged. Alternatively, two applications can be made. Apply first application to the initial nutsedge flush when it has reached the 3-5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize nutsedge control, apply SANDEA when nutsedge plants are in the 3-5 leaf stage. For best results, use a minimum of 0.75 oz/A of SANDEA.<br>• Preemergence and Postemergence application for control of labeled broadleaf weeds: Apply SANDEA as a single or sequential broadcast application to orchard floor on either side of the row based on weed pressure. For best results, apply to bare ground. If small weeds are present, to maximize and enhance the spectrum of broadleaf control tank when ground cover prevents contact with the soil will result in reduced or no residual activity. Mix with a postemergence broad-spectrum type herbicide.<br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no<br>residual activity. |
| | | **PRECAUTIONS:**<br>• For best results, use a NIS with postemergence applications.<br>• Avoid spray or drift contact with tree foliage and fruit.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply when orchard temperatures exceed 85°F at the time of application.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to trees established in a permanent orchard less than one calendar year.<br>• Do not apply to nursery stock.<br>• Minimum of 45 days between applications.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **TREE NUT CROP GROUP 14 (1)** | 2/3 - 1 1/3 | Apply SANDEA as a directed spray to established tree nut crops. Established tree nut crops are defined as those that have been transplanted into their final growing location for a period of at least 12 months, and where the soil has firmly settled around the roots from packing and rainfall or irrigation.<br>• Extreme care must be exercised to avoid contact of spray containing SANDEA with trunk, stems, roots, or foliage of tree nut crops, or severe damage or death may result.<br>• Labeled rates are based on broadcast treatment. For band applications reduce the broadcast rate of SANDEA in proportion to the area actually sprayed. For all applications, adjust the rate of SANDEA to account for high volume output nozzles, such as off-center nozzles, and overlaps in the spray pattern. Use of controlled droplet application, spot application, irrigation, or chemigation equipment for application of this product is not recommended due to variations in the actual application rate. Excessive application rates can result in severe tree injury or death.<br>• Use a maximum of 1 oz by weight (0.047 lb active ingredient) SANDEA per acre on coarse textured soils classified as sands, loamy sands, and sandy loams with less than 18% clay and more than 65% sand, or on soils with less than 1% organic matter. Do not apply to gravely soils. For the best results apply SANDEA in the spring when nutsedge is not drought stressed and maximize the interval between application and subsequent irrigation.<br>• Mechanical cultivation or mowing may be required to control weed species not on the SANDEA label. If so, a sequential treatment may be required to control weeds in areas of disturbed soil.<br>• If SANDEA is applied to trees that have been weakened by or recovering from stress caused by, but not limited to, excessive fertilizer or soil salts, disease, nematodes, frost, wind injury, drought, flooding, previously applied pesticides, insects, winter injury, soil pan of any type, nutrient deficiency, or mechanical damage, severe injury or death may result. Application of SANDEA to weakened or stressed trees as described, especially in soils with less than 1% organic matter, significantly increases the probability of severe injury or death.<br>• SANDEA may be applied at 2/3 to 1 1/3 oz by weight per acre in combination with glyphosate agricultural herbicides for control of emerged annual grasses, broadleaf weeds and nutsedge. |
| | **PRECAUTIONS:**<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>**RESTRICTIONS:**<br>• Refer to the “Rotational Crop Restrictions” for applicable rotational crop information.<br>• Do not apply more than 2 applications or 2 2/3 oz/A of product by weight (0.125 lb active ingredient) per 12 month period. On coarse textured soils classified as sand, loamy sand, and sandy loam with less than 18% clay and more than 65% sand, or on soils with less than 1% organic matter, do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb ai/acre) per 12 month period. | |

**FIELD CROPS**

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **BEANS, DRY (30)** | 1/2 - 2/3 | Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>**Direct-seeded:**<br>• **Preemergence -** Apply SANDEA after planting but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence -** Apply SANDEA when plants have 1 to 3 trifoliate leaves, but before flowering. Applications with a weed size of 6 inches or below will allow for the greatest control. Make only one broadcast application per season.<br>• Only apply as a post directed row middle or furrow application in the state of California.<br><br>**<u>Tank Mixtures for Dry Beans:</u>**<br>• 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 and precautionary language of the products in the mixture.<br>• Tank mixtures for additional broadleaf weed control can be added.<br>• Tank mixtures for postemergent grass control, including but not limited to TARGA® or other graminicides can be added. |
| | **PRECAUTIONS:**<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.<br>• Not all varieties have been tested for tolerance. Under adverse growing conditions (dry or excessive moisture, cool weather, etc.), maturity of the treated crop may be delayed which can influence harvest date, yield, and quality.<br>• Use of COC or MSO adjuvant may cause temporary crop response when plants are under stress.<br>**RESTRICTIONS:**<br>• COC or MSO adjuvants can only be used in the states of CO, MN, NE, ND, and SD.<br>• Do not apply more than 2 applications of 2/3 OZ/A per crop cycle, not to exceed 2 OZ/A of product by weight (0.094 lb a.i./acre) per 12 month period. | |
| | 1/2 -1 | • **Row Middle/Furrow Applications for Dry Beans -** Apply SANDEA between crop rows while avoiding contact of the herbicide with the planted crop. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per crop-cycle, not to exceed 2 oz/A (0.094 lb a.i./acre) per 12 month period (includes applications to the crop and to row middles/furrows). | |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **BEANS, SUCCULENT SNAP (30)** (*including lima beans)* | 1/2 - 1 | **Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• Apply uniformly with ground equipment in a minimum of 15 gal of water per acre. |
| | 1/2 - 2/3 | **Direct-seeded:**<br>• **Postemergence** - Apply SANDEA over-the-top after the crop has reached the 2 to 4 trifoliate leaf stage, but before flowering. Use the lower rate on lighter textured soils with low organic matter. Directed sprays may limit crop injury. |
| | 1/2 - 1 | • **Row Middle/Furrow Applications** - Apply SANDEA between crop rows while avoiding contact of the herbicide with the planted crop. Reduce rate and spray volume in proportion to area actually sprayed. |
| | **PRECAUTIONS:**<br>• Application of SANDEA may cause temporary stunting.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per crop-cycle, not to exceed 2 oz/A (0.094 lb a.i./acre) per 12 month period (includes applications to the crop and to row middles/furrows). | |
| | 1/2 – 1 | **Preplant or At Planting:**<br>Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>• **Incorporation:** Apply and incorporate 1/2 to 1 oz SANDEA with EPTAM 7-E at a depth of approximately 2 inches just before planting. Use lower rate on lighter textured soils with low organic matter. Refer to EPTAM 7-E label for specific incorporation directions. Rotary hoe lightly during or shortly after emergence of the beans to break any crust that occurs. |
| **6B SUCCULENT SHELLED PEA AND BEAN SUBGROUP (30)** (Any succulent shelled cultivar of bean (Phaseolus) including lima bean, green; broad bean, succulent; (vigna) including blackeyed pea, cowpea, southern pea, (Pisum) including English pea, garden pea, green pea, and pigeon pea) | 1/2 | **Preemergence application for control of labeled broadleaf weeds -** Apply SANDEA as a single broadcast application after planting but before crop emergence.<br><br>Application of SANDEA may cause significant, temporary stunting and delay maturity of peas resulting in delayed harvest. This product is available to the end-user /grower solely to the extent that the benefit and utility, in the sole opinion of the end-user/grower, outweigh the extent of potential injury associated with the use of this product. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply more than 1 application or 1/2 oz/A of product by weight (0.023 lb a.i./acre) per 12 month period.<br>• Do not feed to livestock. | |
| | 1/2 - 1 | **Postemergence –** Apply SANDEA uniformly with ground equipment in a minimum of 15 gal of water per acre. Apply as a directed spray when plants have 2 to 4 trifoliate leaves and before flowering. Make one broadcast application. Directed sprays are recommended to limit crop injury.<br><br>Not all varieties have been tested for tolerance. Under adverse growing conditions (dry or excessive moisture, cool weather, etc.), maturity of the treated crop may be delayed which can influence harvest date, yield, and quality. For untested varieties, a small area of the field should be sprayed to determine potential sensitivity to its use. |
| | **PRECAUTIONS:**<br>• For best results, use a NIS with applications.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per crop cycle, not to exceed 2 oz/A (0.094 lb a.i./acre) per 12 month period.<br>• Do not feed to livestock. | |
| **CORN, FIELD AND FIELD CORN GROWN FOR SEED (30)** | 2/3 - 1 1/3 | **Postemergence** - Apply SANDEA over-the-top or with drop nozzles from the spike-through layby stage of field corn.<br>**<u>Tank Mixtures for Corn Only</u>**<br>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 and precautionary language of the products in the mixture.<br><br>Ensure that spray equipment is set up to avoid applying an excessive rate directly over the rows and into the whorl of the cornstalk. To insure good spray coverage of weeds and to reduce the risk of spraying directly into the whorl, tank mix applications made after corn is 24 inches tall should be directed or semi-directed using drop nozzles.<br>**<u>SANDEA Post Field Corn Applications</u>**<br>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 and precautionary language of the products in the mixture. |

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **CORN, FIELD AND FIELD CORN GROWN FOR SEED (30) (continued)** | 2/3 - 1 1/3 | Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. For tank mixtures, add individual formulations to a spray tank in the following sequence: water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by NIS or COC.<br><br>Tank mixtures should not be applied if the crop is under severe stress due to drought, water-saturated soils, poor fertility (especially low nitrogen levels), hail, frost, insects or when the maximum daytime temperature is above 92° F at time of application. Tank mix applications under these conditions may cause temporary crop injury.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, Armezon™, atrazine, Buctril®, Callisto®, dicamba, Impact®, Laudis® or YUKON® can be added.<br><br>Tank mixtures for postemergeence grass control, including but not limited to Accent®, Beacon®, Option® or Steadfast® can be added.<br><br>Tank mixtures for additional postemergence grass and broadleaf control, including but not limited to Roundup® brands or glyphosate (glyphosate-tolerant corn only) or Ignite® and Liberty® (LibertyLink® hybrids only) can be added.<br>**SANDEA and SOIL RESIDUALS in emerged corn**<br>Alachlor, acetochlor, metolachlor and dimethenamid may be tank mixed with SANDEA for residual control of foxtails and other grass weeds in field corn.<br><br>**SANDEA Soil Applications**<br>When used exclusively with **Pioneer IR field corn hybrids**, SANDEA may be soil applied at the rate of 1 1/3 to 2 oz per acre (0.062 to 0.094 lb of active ingredient per acre) for residual control of velvetleaf, common cocklebur, common lambsquarters, common ragweed, pigweed, smartweed, sunflower and other difficult to control weeds.<br><br>This product is labeled as an early pre-plant surface-applied, pre-plant incorporated, or preemergence treatment. SANDEA offers effective broadleaf control across all tillage systems and is intended for use in tank mixtures with preemergence grass herbicides, including but not limited to: alachlor, acetochlor, metolachlor and dimethenamid active ingredient materials<br><br>Refer to the labels for these products, or any other grass preemergence herbicide used for use instructions, weeds controlled, and application restrictions. |
| | **PRECAUTIONS:**<br>• Refer to “Mixing Instructions” and “Use Rate Guides” for detailed information on SANDEA application.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 2/3 oz/A of product by weight (0.125 lb a.i./acre) per 12 month period.<br>• Refer to the “Rotational Crop Restrictions” for applicable rotational crop information.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage. | |
| **CORN, SWEET AND POPCORN (30)** | 2/3 - 1 | Apply SANDEA over-the-top or with drop nozzles from the spike through layby stage of the corn. If necessary, a sequential treatment of this product at 2/3 oz per acre may be applied only with drop nozzles semi-directed or directed to avoid application into the corn plant whorl. |
| | **PRECAUTIONS:**<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications of SANDEA per 12 month period in sweet corn or popcorn.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage.<br>• Do not use SANDEA on “Jubilee” sweet corn. All varieties have not been tested for sensitivity to SANDEA. | |
| **COTTON (28)** | 2/3 - 1 1/3 | Apply SANDEA as a directed spray in hooded equipment for postemergent weed control in emerged cotton. Applications may be made anytime after cotton emergence until row closure inhibits use of hooded spray equipment. The applicator is responsible for maintaining proper spray speed and equipment position so spray mist does not contact cotton plants. |
| | **PRECAUTIONS:**<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 1 1/3 oz/A of product by weight (0.062 lb a.i./acre) per 12 month period.<br>• Refer to the “Rotational Crop Information” for applicable rotational crop restrictions. | |

<table>
<tr><th>CROP</th><th>OZ/ACRE</th><th>DIRECTIONS FOR USE</th></tr>
<tr><td>MILLET, PROSO<br><br>(0 Millet Forage)<br><br>(50 Millet Grain and Straw)<br><br>(37 Millet Hay)</td><td>1/2 - 2/3</td><td>Millet Growth Stage: SANDEA, alone, can be applied from the 2 leaf through layby stage (before grain head emergence).<br><br>Temporary stature reduction may occur to the crop following application of SANDEA if the proso millet is under stress. This effect will be most evident 7 to 10 days after application. The crop will quickly recover under normal growing conditions. Applications should be made after weed emergence and actively growing. If adding a tank mix, refer to the tank mix section of this label.<br><u>TANK MIXTURES</u><br>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 and precautionary language of the products in the mixture.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, and dicamba can be added.<br><br>Insecticide and fungicide products can be tank mixed with SANDEA.<br>Listed day intervals following an application of SANDEA.
<table>
<tr><th rowspan="2">Crop</th><th colspan="3">All Animals (Lactating and Non-lactating)</th></tr>
<tr><th>Pre-Grazing Interval (PGI)</th><th>Pre-Harvest Interval (PHI)</th><th>Pre-Slaughter Interval (PSI)</th></tr>
<tr><td>Millet Forage</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Millet Grain</td><td>N/A</td><td>50</td><td>0</td></tr>
<tr><td>Millet Straw</td><td>N/A</td><td>50</td><td>0</td></tr>
<tr><td>Millet Hay</td><td>N/A</td><td>37</td><td>0</td></tr>
</table>
</td></tr>
<tr><td></td><td colspan="2">PRECAUTIONS:<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>• Refer to "Mixing Instructions" and "Use Rate Guides" for detailed information on SANDEA application.<br>RESTRICTIONS:<br>• Do apply more than 1 application or 2/3 oz/A of product by weight (0.031 lb a.i./acre) per 12 month period.<br>• 0 Day Pre grazing interval for grass forage for ALL animals (lactating and non-lactating).</td></tr>
<tr><td>RICE (48, CA 69)</td><td>2/3 - 1 1/3</td><td>Pre-plant, at planting, preemergence and postemergence applications to rice<br>• Pre-plant:<br>Apply SANDEA at 2/3 oz per acre in combination with glyphosate or other suitable agricultural herbicides for burn down of emerged annual grasses, broadleaf weeds and nutsedge. If this product is applied pre-plant burn down, refer to "TIME INTERVAL BEFORE PLANTING" table in complete directions for use.<br>• Preemergence and Postemergence:<br>Apply SANDEA for postemergent weed control from prior to the emergence of rice until after permanent flood is established. Apply SANDEA at 2/3 to 1 1/3 oz/A, with the total application rate not to exceed 1 1/3 oz/A of product (0.062 lb a.i./acre) per 12 month period.<br><br>SANDEA can be applied as a foliar spray or dry broadcast.<br><br>SANDEA can be tank mixed with propanil containing rice herbicides (e.g. Stam and propanil 4E) at 2/3 to 1 1/3 oz per acre of this herbicide and labeled rates of the tank mix products.<br><br>Foliar applications of SANDEA can be made at the 3 to 5 leaf stage of rice when weeds have 2 to 4 leaves. Dry broadcast applications can be made at the 1 to 2 leaf stage of rice when weeds have two leaves or less.<br><br>SANDEA can also be applied post flood with dry broadcast applications of SANDEA at 2/3 to 1 1/3 oz with the total application rate not to exceed 1 1/3 oz/A of product (0.062 lb a.i./acre) per 12 month period.<br><br>With all foliar applications of SANDEA use a minimum 3 to 15 gal of water per acre for aerial equipment and a minimum of 10 gal of water per acre for ground equipment. It is best to apply spray solutions the day they are mixed.<br><br>Water levels in rice fields and checks should remain static (3 to 6 inch depth) following dry broadcast applications of SANDEA. Do not reintroduce water into rice fields or checks for at least five days following dry broadcast applications of SANDEA. Rice fields and checks may be irrigated to maintain water level, but this may reduce weed control.<br><br>Control of emerged weeds with foliar applications is best when 70% to 80% of the weed foliage is exposed. Control of submerged weeds is best when weeds have 2 leaves or less. Do not reintroduce water into rice fields or checks for at least 24 hours following foliar applications of SANDEA.<br><br><u>SANDEA Tank Mixture Options in Rice</u><br>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 and precautionary language of the products in the mixture.</td></tr>
</table>

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **RICE (48, CA 69) (continued)** | | Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. For tank mixtures, add individual formulations to a spray tank in the following sequence: water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by NIS or COC.<br><br>Tank mixtures should not be applied if the crop is under severe stress due to drought, poor fertility (especially low nitrogen levels), hail, frost and insects. Tank mix applications under these conditions may cause temporary crop injury.<br>• **Preemergence & Pre-Plant Applications:** Tank mixtures for additional preemergence weed control, including but not limited to Bolero®, Command® 3ME, glyphosate, pendimethalin or quinclorac can be added.<br>• **Postemergence Applications:** Tank mixtures for additional broadleaf weed control, including but not limited to Grandstand®, propanil and propanil products, Aim®, Facet®, Basagran®, Londax®, Grasp®, Regiment® , NewPath®, Beyond® and 2-4-D can be added.<br>Tank mixtures for postemergence grass control, including but not limited to Newpath®, Beyond®, propanil, Facet®, Grasp®, and Regiment® can be added.<br><br>Insecticide and fungicide products can be tank mixed with SANDEA®.<br><br>Sequential Applications - SANDEA can be applied sequentially with Ordram®, Bolero®, Clincher®, Regiment® and Shark®. Read the Ordram, Bolero, Clincher, Regiment and Shark labels for application information, restrictions and precautions. |
| | **PRECAUTIONS:**<br>• Avoid using SANDEA on rice fields which have a history of weed biotypes resistant to ALS herbicides.<br>• For best results, use 0.25 to 0.5% NIS which contains at least 80% active ingredient with foliar applications of SANDEA.<br>• Refer to "Application Equipment and Instructions" for spray drift management techniques.<br>• Refer to "Mixing Instructions" and "Use Rate Guides" sections of this label for detailed information on SANDEA application.<br>**RESTRICTIONS:**<br>• Do not apply within 48 days of harvest.<br>• Do not apply within 69 days of harvest in California.<br>• Do not exceed more than 2 applications per 12 month period. | |
| **SORGHUM, GRAIN (MILO) (30)** | 2/3 - 1 | **Postemergence -** Apply SANDEA from the 2 leaf through layby stage (before grain head emergence).<br><br>Temporary stature reduction may occur to the crop following application of SANDEA if the grain sorghum is under stress. This effect will be most evident 7 to 10 days after application. The crop will quickly recover under normal growing conditions.<br><br>**Tank Mixtures for Grain Sorghum**<br>Tank mixtures with SANDEA can include, but are not limited to atrazine, Buctril® or 2,4-D.<br>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 and precautionary language of the products in the mixture. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 1 application or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage. | |
| **SUGARCANE (30)** | 2/3 - 1 1/3 | When used alone, apply SANDEA prior to planting, prior to emergence or after the emergence of the sugarcane, and until row closure. Mechanical cultivation may be required to control weed species not on the label. If so, a **sequential treatment** may be required to control weeds in areas of disturbed soil.<br><br>Apply SANDEA at 2/3 to 1 1/3 oz by weight per acre (0.031 to 0.062 lb active ingredient per acre) in combination with glyphosate agricultural herbicides for pre-plant burn down of emerged annual grasses, broadleaf weeds and nutsedge in sugarcane.<br><br>**Tank Mixtures for Sugarcane**<br>Tank mixtures with SANDEA can include, but are not limited to Asulox®, atrazine , Callisto®, Envoke®, Evik® , glyphosate, or 2,4-D.<br><br>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 and precautionary language of the products in the mixture. |
| | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Refer to the "Rotational Crop Restrictions" for applicable rotational crop information.<br>• Do not apply more than 3 applications (including pre-plant applications) or 2 2/3 oz/A (0.125 lb a.i./acre) per 12 month period.<br>• Following application to foliage allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage. | |

**OTHER CROPS AND APPLICATIONS**

| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **ALFALFA (14) AZ, CA, & NM** | 2/3 - 1 | **Established Fields**<br>• **Postemergence Broadcast -** Apply SANDEA as a broadcast application to established alfalfa. Alfalfa should be well established in the field for a minimum of 6 months prior to application of SANDEA. Apply uniformly with ground equipment in a minimum of 20 gal of water per acre. Use a water volume that will provide uniform coverage of plants. It is recommended to make an application as soon as possible after removal of hay from the field and prior to an irrigation to minimize crop injury. Wait for at least 48 hours after application before irrigation.<br>• **Postemergence Spot Treatment -** Apply SANDEA as a spot treatment application to only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for<br>• **Postemergence followed by Postemergence -** To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate must not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. This use pattern will result in greater potential of growth and yield reduction.<br>Research has shown that alfalfa growth and yields will be reduced for one or more cuttings after a SANDEA application. Application of SANDEA to alfalfa where re-growth exceeds 6" will result in greater yield reduction. Symptoms may be temporary. Follow all directions carefully to minimize potential reduced plant growth and yield. Apply uniformly with ground equipment in a minimum of 20 gal of water per acre. Use a water volume that will provide uniform coverage of plants. |
| | | **PRECAUTIONS:**<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |
| **ARTICHOKE (5)** | 1 – 2 | Apply SANDEA uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>Apply as a broadcast application to the ground on either side of the row and winter ditches while avoiding crop foliage.<br>• **Row Middle -** Apply SANDEA between rows of perennial artichokes for the control of nutsedge and listed broadleaf weeds. Applications should be made when oxalis is in full bloom. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. To maximize nutsedge control, apply when plants are in the 3 to 5 leaf stage<br>Application of SANDEA may cause significant, temporary stunting and delay maturity of artichokes if sprayed directly. This product is available to the end-user /grower solely to the extent that the benefit and utility, in the sole opinion of the end-user/grower, outweigh the extent of potential injury associated with the use of this product. |
| | | **PRECAUTIONS:**<br>• For best results, use a NIS with applications.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>• Use rates are broadcast per acre. Reduce rate and spray volume in proportion to area actually sprayed.<br>• SANDEA may not control ALS resistant weeds.<br>**RESTRICTIONS:**<br>• Do not apply by air.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |
| **ASPARAGUS (1)** | 1/2 - 1 1/2 | Apply uniformly with ground equipment in a minimum of 15 gal per acre.<br>**Nursery, Transplanted Crowns and Established Beds**<br>• **Postemergence/Post transplant -** Apply SANDEA to asparagus before or during the harvesting season. SANDEA may cause a temporary stunting or twisting of fern on certain asparagus varieties when applied during spear emergence. The addition of surfactants and postemergent grass herbicides may accentuate the crop response. Spectrum and degree of weed control may be reduced where SANDEA is used without a surfactant.<br>• **Post-harvest** - Apply SANDEA at the end of the harvest season. Under heavy nutsedge pressure, split applications are recommended. Contact with the fern may cause temporary yellowing. A NIS or COC should be used with post-harvest applications. Crop injury will be minimized and weeds control will be more effective when applications are made with drop nozzles as a directed spray below the ferns to allow for more complete coverage of target weeds.<br>• **Split application for enhanced control of nutsedge -** Apply a split application with 3/4 to 1 oz product per acre during the cutting/harvesting season when the first flush of nutsedge is in the 3 to 5 leaf stage, followed by a second application of 3/4 to 1 oz product per acre at least 21 to 30 days later up to lay-by to control later flushes of nutsedge. SANDEA can be applied post-harvest during the fern stage. Contact with the fern may cause temporary yellowing. Crop injury will be minimized and nutsedge more effectively controlled when applications are made with drop nozzles directing the spray below the ferns allowing for more complete coverage of nutsedge. |
| | | **PRECAUTIONS:**<br>• For first year transplants, apply no sooner than six weeks after fern emergence.<br>• NIS can be used east of the Rockies to enhance weed control.<br>• Consult "Use Precautions" and "For Optimum Results" for important usage information.<br>**RESTRICTIONS:**<br>• Do not use NIS west of the Rockies.<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period. |

<table>
<tr><th>CROP</th><th>OZ/ACRE</th><th>DIRECTIONS FOR USE</th></tr>
<tr><td rowspan="2">FALLOW GROUND</td><td>2/3 - 1 1/3</td><td>Applications of SANDEA to fallow ground.</td></tr>
<tr><td colspan="2">PRECAUTIONS:<br>• Refer to the “Weeds Controled” section of this label for weed control recommendations.<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>RESTRICTIONS:<br>• Do not apply more than 2 applications or 2 2/3 oz of product by weight (0.125 lb a.i./acre) per 12 month period.<br>• Refer to the “Rotational Crop Restrictions” for applicable rotational crop information.</td></tr>
<tr><td rowspan="2">OKRA (30)</td><td>1/2 - 1</td><td>• Direct-seeded and Transplant:<br>Row Middle/Furrow Applications/Shielded Spray - Apply SANDEA between rows of direct-seeded or transplanted okra, while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.</td></tr>
<tr><td colspan="2">PRECAUTIONS:<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.<br>RESTRICTIONS:<br>• Do not apply more than 2 applications or 2 oz/A of product by weight (0.094 lb a.i./acre) per 12 month period.</td></tr>
<tr><td rowspan="2">CROP GROUP 17 PASTURE, RANGELAND & CRP FORAGE GRASSES/HAY (37)</td><td>2/3 – 1 1/3</td><td>Established Fields<br>• Postemergence Broadcast – Apply SANDEA as a broadcast application to established Pasture & Rangeland. Apply uniformly with ground equipment in a minimum of 10 gal of water per acre. Use a water volume that will provide uniform coverage of plants. It is recommended to make an application as soon as possible after removal of hay or before weeds exceed label height restriction. Wait for at least 48 hours after application before irrigation.<br>• Postemergence Spot Treatment – Apply SANDEA as a spot treatment application to only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants.<br>• Postemergence followed by Postemergence - To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. This use pattern will result in greater potential of growth and yield reduction.<br><br><u>TANK MIXTURES</u><br>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 and precautionary language of the products in the mixture.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, dicamba and, Grazon® can be added.<br><br>Labeled insecticides, including CONFIRM®, and labeled fungicide products can be tank mixed with SANDEA.<br>Listed day intervals following an application of SANDEA.
<table>
<tr><th rowspan="2">Crop</th><th colspan="3">Lactating and Non-lactating Animals</th></tr>
<tr><th>Pre-Grazing Interval (PGI)</th><th>Pre-Harvest Interval (PHI)</th><th>Pre-Slaughter Interval (PSI)</th></tr>
<tr><td>Pasture, Rangeland, CRP and Forage Grasses/Hay</td><td>0</td><td>37</td><td>0</td></tr>
</table></td></tr>
<tr><td colspan="2">PRECAUTIONS:<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>• Refer to “Mixing Instructions” and “Use Rate Guides” for detailed information on SANDEA application.<br>RESTRICTIONS:<br>• Do not apply more than 2 applications or 1 1/3 oz/A of product by weight (0.062 lb a.i./acre) per 12 month period.<br>• 0 Day pre grazing interval for lactating and non-lactating animals.</td></tr>
<tr><td rowspan="2">RHUBARB (60)</td><td>1/2 - 1</td><td>Apply uniformly with ground equipment in a minimum of 15 gal of water per acre.<br>Apply SANDEA as a single broadcast application to <u>dormant</u> rhubarb. The timing of the application should be as late as possible, or just prior to the breaking of rhubarb dormancy. Application of SANDEA may cause significant crop stunting. It is recommended that the user begin with a the lower rate to determine potential sensitivity to its use along with speed and degree of recovery.</td></tr>
<tr><td colspan="2">PRECAUTIONS:<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>• For best results use a NIS if labeled weeds are emerged.<br>• SANDEA may not control ALS resistant weeds.<br>RESTRICTIONS:<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period.</td></tr>
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<table>
<tr><th>CROP</th><th>OZ/ACRE</th><th>DIRECTIONS FOR USE</th></tr>
<tr><td rowspan="2">CROP GROUP 1C TUBEROUS AND CORM VEGETABLES SUBGROUP (Arracacha; arrowroot; artichoke, Chinese; artichoke, Jerusalem; canna, edible; cassava, bitter and sweet; chayote (root); chufa; dasheen (taro); ginger; leren; potato; sweet potato; tanier; turmeric; yam bean; yam, true. (45)</td><td>1/2 - 1</td><td>• Preemergence and Postemergence applications for control of labeled broadleaf weeds and nutsedge:<br><br>Apply a single broadcast application after planting but prior to crop emergence. If needed, make a second postemergence foliar application 45 days before harvest.<br><br>Second application, add NIS (1 to 2 quarts) per 100 gal of spray solution.<br><br>Application of SANDEA may cause significant, temporary stunting and delay maturity of potatoes resulting in delayed harvest. This product is available to the end-user/grower solely to the extent that the benefit and utility, in the sole opinion of the end-user/grower, outweigh the extent of potential injury associated with the use of this product.</td></tr>
<tr><td colspan="2">PRECAUTIONS:<br>• Consult “Use Precautions” and “For Optimum Results” for important usage information.<br>• SANDEA may not control ALS resistant weeds.<br>RESTRICTIONS:<br>• Do not apply more than 2 applications or 1 oz/A of product by weight (0.047 lb a.i./acre) per 12 month period.</td></tr>
<tr><td>TURFGRASS SOD AND SEED FARMS</td><td>2/3 - 1 1/3</td><td>SANDEA is a selective herbicide for postemergence control of sedges such as purple and yellow nutsedge in sod or turf seed farms. This product will not injure nearby established ornamentals, trees, and shrubs when used according to label directions.<br><br>For postemergence control of purple or yellow nutsedge found in established turfgrass, apply 2/3 to 1 1/3 oz by weight of this product per acre (0.031 to 0.062 lbs. a.i./acre) after nutsedge has reached the 3 to 5 leaf stage of growth. Use the lower rate in light infestations and the higher rate in heavy infestations.<br><br>A second treatment may be required 6 to 10 weeks after the initial treatment. As a sequential treatment, when new purple or yellow nutsedge plants have reached the 3 to 5 leaf stage of growth, apply 2/3 to 1 1/3 oz by weight of this product per acre (0.031 to 0.062 lb a.i./acre). Use the lower rate in light infestations and the higher rate in heavy infestations.<br><br>Use 0.25 to 0.5% NIS concentration (1 to 2 quarts per 100 gal of spray solution) for broadcast applications. For high volume applications, Do not exceed 1 quart of surfactant per acre. Use only NIS which contains at least 80% active material. Refer to the surfactant label and observe all precautions, mixing and application instructions.<br><br>When applied as directed under the conditions described, the following established turfgrasses are tolerant to application of this product:<br><br>
<table>
<tr><th colspan="3">Established Cool-Season Grasses</th></tr>
<tr><td>Bentgrass, creeping<br>(Agrostis stolonifera)</td><td>Fescue, fine<br>(Festuca rubra )</td><td>Ryegrass, perennial<br>(Lolium perenne)</td></tr>
<tr><td>Blue Grass, Kentucky<br>(Poa pratensis)</td><td>Fescue, tall<br>(Festuca arundinacea)</td><td></td></tr>
<tr><th colspan="3">Established Warm-Season Grasses</th></tr>
<tr><td>Bahiagrass<br>(Paspalum notatum)</td><td>Centipedegrass<br>(Eremochloa ophiuroides)</td><td>Kikuyugrass<br>(Pennisetum clandestinum)</td></tr>
<tr><td>Bermudagrass<br>(Cynodun dactylon)</td><td>Seashore paspalum<br>(Paspalum vaginatum)</td><td>Zoysiagrass<br>(Zoysia japonica)</td></tr>
<tr><td>Buffalograss<br>(Buchloe dactyloides)</td><td>St. Augustinegrass<br>(Stenotaphrum secundatum)</td><td></td></tr>
</table>
Fallow Treatments in Turfgrass Seed and Sod Production Areas<br>This product may be used on fallow areas prior to establishing turfgrass plants. Allow 4 weeks between application and seeding or sodding of turfgrass.<br><br><u>Tank Mixtures for Turfgrass Renovation</u><br>SANDEA plus GLYPHOSATE AGRICULTURAL HERBICIDES plus NIS<br>For non-selective control of all vegetation prior to turfgrass renovation, SANDEA may be applied at 2/3 oz by weight per acre in combination with glyphosate agricultural herbicides for pre-plant burndown of emerged annual grasses, broadleaf weeds and nutsedge.<br><br>Refer to the glyphosate agricultural herbicide label for use instructions, weeds controlled, and application restrictions.<br><br>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 and precautionary language of the products in the mixture.</td></tr>
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| CROP | OZ/ACRE | DIRECTIONS FOR USE |
|---|---|---|
| **TURFGRASS SOD AND SEED FARMS (continued)** | | **PRECAUTIONS:**<br>• For best results, do not mow turf for 2 days before or 2 days after application.<br>• This product is effective if no rainfall occurs within 3 hours, but best results are obtained with no rainfall or irrigation for at least 8 hours.<br>• This product may be used on seeded, sodded, or sprigged turfgrass that is well established. Allow the turf to develop a good root system and uniform stand before application.<br>• Avoid application of SANDEA when turfgrass or nutsedge is under stress since turf injury and poor nutsedge control may result.<br>**RESTRICTIONS:**<br>• Do not apply as an over the top spray to desirable shrubs or trees.<br>• Do not exceed the recommended amount of surfactant due to the potential for turf injury at higher rates.<br>• Do not apply more than 2 applications or 2 2/3 oz/A of product by weight (0.125 lb a.i./acre) per 12 month period. |

**ROTATIONAL CROP RESTRICTIONS**

Rotation intervals below may need to be extended if drought or cool conditions prevail. Rotation intervals may need to be extended on drip irrigated crops in Arizona and California. Canyon Group recommends that the end user test this product in order to determine its suitability for such intended use. When using SANDEA in tank mixes, refer to the individual product labels being tank mixed. To determine rotational crop restrictions follow the longest rotational limitation of the product being tank mixed.

**TIME INTERVAL BEFORE PLANTING**

| CROP | MONTHS | EXCEPTIONS |
|---|---|---|
| **CROPS NOT SPECIFICALLY LISTED** | 36 | |
| Alfalfa | 9 | |
| Barley (winter) | 2 | |
| Beans, Dry | 0 | |
| Beans, Snap | 9 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Broccoli | 18 | 3 months for muck soils in FL |
| Cabbage | 15 | 3 months for muck soils in FL |
| Canola | 15 | |
| Carrot | 15 | |
| Cauliflower | 18 | 3 months for muck soils in FL |
| Cereal crops, Spring | 2 | |
| Clovers | 9 | |
| Collards | 18 | |
| Corn, IR/IMR Field | 0 | |
| Corn, Normal Field and IT Field | 1 | |
| Corn, Seed | 2 | |
| Corn, Sweet and Pop | 3 | |
| Cotton | 4 | |
| Cucumbers | 9 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Eggplant | 12 | 4 months for FL Transplants |
| Forage Grasses | 2 | |
| Lettuce crops | 18 | 3 months for muck soils in FL |
| Melons | 9 | 2 months in the southeast and TX |
| Mint | 15 | |
| Oats | 2 | |
| Onions and Leeks | 18 | |
| Peanuts | 6 | |
| Peas | 9 | |
| Peas, Field | 9 | |
| Peppers | 10 | 4 months FL Transplants and 3 months in TX |
| Potatoes | 9 | |
| Pumpkins | 9 | 2 months in the southeast |
| Proso Millet | 2 | |
| Radish | 12 | 3 months for muck soils in FL |
| Rice | 0 | |
| Rye (winter) | 2 | |
| Sorghums | 2 | |
| Soybeans | 9 | Where soil pH is less than 7.5 the interval is 5 months |
| Spinach | 24 | 3 months for muck soils in FL |
| Squash | 9 | 2 months in the southeast |
| Strawberries | 36 | 6 months for annual FL Transplants |
| Sugarbeet (Michigan only) | 21 | |
| Sugarbeet (ND, MN, Red River Valley) | 36 | |

| | | |
|---|---|---|
| Sugarbeet and Red Beet | 24 | Where rainfall is sparse or irrigation is required, the time interval is 36 months. |
| Sugarcane | 0 | |
| Sunflowers | 18 | |
| Tomato | 8 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Wheat (winter) | 2 | |

**STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120 F). Do not store under moist conditions.

**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill for pesticide disposal or in accordance with applicable Federal, state or local procedures.

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. 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.

**DISPOSAL AUTHORITIES:** If none of the foregoing procedures is permitted by state and local authorities, then contact your State Pesticide or Environmental Control Agency, or your local Hazardous Waste Disposal office, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK OR FIRE), CALL CHEMTREC® (800) 424-9300.**

For other product information, contact Canyon Group or see Material Safety Data Sheet.

**NOTICE OF CONDITIONS OF SALE AND WARRANTY AND LIABILTY LIMITATIONS**

Important: Read the entire Directions for Use and Notice of Conditions of Sale and Warranty and Liability Limitations before using this product. If terms are not acceptable return the unopened container for a full refund.

Our directions for use of this product are based on tests believed to be reliable. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, inadequate performance, or other unintended consequences may result due to soil or weather conditions, off target movement, presence of other materials, method of use or application, and other factors, all of which are beyond the control of Canyon Group. To the fullest extent permitted by law, when you buy this product, you agree to accept these risks.

Canyon Group warrants that this product conforms to the specifications on the label when used in strict conformance with Directions for Use, subject to the above stated risk limitations. CANYON GROUP MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE FULLEST EXTENT PERMITTED BY LAW, CANYON GROUP'S EXCLUSIVE LIABILITY FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, OR ANY OTHER LEGAL THEORY IS STRICTLY LIMITED TO THE PURCHASE PRICE PAID OR REPLACEMENT OF PRODUCT, AT CANYON GROUP'S SOLE DISCRETION.

Formulated in the United States using Active Ingredient made in Japan.
Manufactured by Nissan Chemical Industries, Ltd.
EPTAM® 7E and SANDEA® are trademarks of Gowan Company LLC.
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All other brands are registered trademarks of their respective owners.


EPA Text SANDEA (to EPA 10/14/2015)

| GROUP | 2 | HERBICIDE |
|---|---|---|

# Sandea®
## Herbicide

**SANDEA® is a selective herbicide for control of listed broadleaf weeds and nutsedge.**

| **ACTIVE INGREDIENT:** | **% BY WT.** |
|---|---|
| Halosulfuron-methyl, methyl 3-chloro-5-(4,6-dimethoxypyrimidin-2-ylcarbamoylsulfamoyl) -1-methylpyrazole-4-carboxylate | 75.0% |
| **OTHER INGREDIENTS** | 25.0% |
| **TOTAL** | 100.0% |

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

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

| **FIRST AID** | |
|---|---|
| IF IN EYES | • Hold eye open and rinse slowly and gently with water for 15-20 minutes.<br>• Remove contact lenses, if present, after 5 minutes, then continue rinsing eye.<br>• Call poison control center or physician for treatment advice. |
| IF SWALLOWED | • Call poison control center or physician immediately for treatment advice.<br>• Have person sip a glass of water if able to swallow.<br>• Do not induce vomiting unless told to do so by the poison control center or doctor.<br>• Do not give anything to an unconscious person. |
| **HOT LINE NUMBER** | |
| Have the product container or label with you when calling poison control center, doctor or going for treatment. For emergency information concerning this product, call toll free 1-888-478-0798. | |

**PRECAUTIONARY STATEMENTS**
**HAZARDS TO HUMANS AND DOMESTIC ANIMALS**
**CAUTION**

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

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Applicators and other handlers must wear:**

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

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.

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

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.

**ENVIRONMENTAL HAZARDS**

This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

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## NET CONTENTS: OUNCES

EPA Reg. No. 81880-18-10163
EPA Est. No.

Gowan
The Go To Company

Produced For:
Canyon Group LLC.
C/O Gowan Company
PO Box 5569
Yuma, AZ 85366-5569

## DIRECTIONS FOR USE

It is a violation of Federal law to use this product in a manner inconsistent with its labeling. Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### AGRICULTURAL USE REQUIREMENTS

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR Part 170. This standard contains requirements for the protection of agricultural workers on farms, forests, nurseries and greenhouses, and handlers of agricultural pesticides. It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard. Do not enter or allow worker entry into treated areas during the restricted entry interval (REI) of 12 hours. PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Coveralls
- Chemical-resistant gloves made of any waterproof material
- Shoes plus socks

## PRODUCT INFORMATION

SANDEA is a dry flowable formulation that selectively controls certain broadleaf weeds and nutsedges in selected crops. SANDEA is effective both preemergence and postemergence. SANDEA can be absorbed through roots, shoots and foliage, and is translocated within the plant.

## WEED RESISTANCE STATEMENT

Weeds can develop resistance to herbicides. Some weed biotypes have inherent resistance to certain herbicides. Also, repeated use of herbicides with similar modes of action can result in the development of resistance in weed populations. SANDEA, a member of the sulfonylurea family, is an ALS enzyme inhibiting herbicide. To minimize the potential for resistance development and/or to control resistant weed biotypes, use a variety of cultural, mechanical, and chemical weed control tactics. Rotate with herbicides having different modes of action (e.g. non-ALS/AHAS materials). Contact your professional crop advisor, local cooperative extension specialist, or Gowan Company representative for additional information.

## APPLICATION EQUIPMENT AND INSTRUCTIONS

**Ground Applications**:

SANDEA can be applied as a broadcast or band application. For band applications, use proportionally less spray mixture based on the area actually sprayed. Do not concentrate the band. Consult the "APPLICATION INSTRUCTIONS" section of this label for the rates and procedures that are appropriate for your growing region.

Apply SANDEA in a spray volume that ensures thorough and uniform coverage. Use of 15 or more gallons of water per acre is recommended unless otherwise directed in the "APPLICATION INSTRUCTIONS" section. Choose nozzles that provide optimum spray distribution and coverage to the target weed at the appropriate pressure (psi). Avoid streaking, skips, overlaps, and spray drift during application. Thoroughly clean equipment prior to mixing spray solution. Follow the clean-up procedures on the labels of applied products. If no directions are provided, follow the 6 steps outlined in the "Sprayer Tank Cleanout" section below.

**Aerial Applications:**

Apply this product or approved tank mixtures with properly calibrated equipment in 3 - 15 gallons of water per acre.
Thoroughly clean equipment prior to mixing spray solution. Avoid streaking, skips, overlaps, and spray drift during applications.

**Spray Drift Management:**

AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR. Do not allow this product to drift onto neighboring crops or non-crop area or use in a manner or at a time other than in accordance with label directions because animal, plant or crop injury, illegal residues, or other undesirable results may occur. The interaction of many equipment - and weather - related factors determine the potential for spray drift. The applicator and the grower are responsible for considering all these factors when making decisions. Where states have more stringent regulations, they should be observed. The following drift management requirements must be followed to avoid off-target drift 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 outer most 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 air stream and never be pointed downwards more than 45 degrees. Where states have more stringent regulations, they should be observed.

The importance of spray 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 may not prevent drift if applications are made improperly or under unfavorable environmental conditions (see the following "Wind", "Temperature and Humidity", and "Temperature Inversion" sections of this advisory).

Controlling initial droplet size:

- **Volume** - Use high flow rate nozzles to apply the highest practical spray volume. Nozzles with higher flow rates 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 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 the spray stream is released backwards, parallel to the air stream will produce larger droplets than other orientations. Significant deflection from the 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 larger droplets than other nozzle types.

Controlling placement of spray droplets:

- **Boom length -** 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 -** Applications should not be greater than 10 feet above the top of the tallest plants unless a greater height is required for aircraft safety. Greater application heights result in greater droplet size reduction through evaporation and greater movement in air currents. Making applications at the lowest height that is safe reduces exposure of droplets to evaporation and wind.
- **Application speed -** Slower aircraft speeds within a safe range will produce less air turbulence and fewer small droplets.
- **Swath adjustment** - 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 must compensate for this displacement by adjusting the path of the aircraft upwind. Swath adjustment distances should increase with increasing drift potential (wind speed, droplet size, etc.).

Key environmental factors:

- **Wind -** Drift potential is the 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 when wind speeds are below 2 mph due to variable wind direction and high inversion potential. NOTE: Local terrain can influence wind patterns. Applicators should be familiar with local wind patterns and how they affect 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 air currents that are 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 detector. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing.

**Sensitive areas:**

Pesticides 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).

Thoroughly clean application equipment immediately after the use of SANDEA. Prepare a tank cleaning solution that consists of a 1% solution of household ammonia (one quart of ammonia for every 25 gallons of water). Use sufficient cleaning solution to thoroughly rinse all surfaces and to flush all hoses. Repeat the procedure with the ammonia solution. Complete the cleaning process by rinsing with clean water.

**CALIFORNIA ONLY**

**Sensitive Crop:**

**PRUNES**

**Buffer Zones:**

1. Aerial applications shall not be made closer than 4 miles.
2. Ground applications shall not be made closer than 1 mile from prunes unless wind direction during the application is away from prunes. When wind direction during the ground application is away from prunes, ground applications shall not be made closer than 1/2 mile from prunes.

**COTTON**

**Buffer Zones**:

1. Aerial applications shall not be made closer than 1 mile from cotton.
2. Ground applications shall not be made closer than 1 mile from cotton unless wind direction during the application is away from cotton. When wind direction during the ground application is away from cotton, ground applications shall not be made closer than 1/2 mile from cotton.

## MIXING INSTRUCTIONS

Fill the spray tank to about 3/4 of the desired volume and begin agitation. Add the labeled amount of SANDEA. Complete the filling process while maintaining agitation. Remove the hose from the mixing tank immediately after filling to avoid siphoning back into the carrier source. Add nonionic surfactant (NIS) and other adjuvants as the last ingredients in the tank. Spray solutions should be applied within 24 hours after mixing.

## ADJUVANTS

Unless otherwise stated, a NIS is recommended in the spray solution for postemergence applications or for preemergence applications where susceptible weeds are present prior to crop emergence. Use only nonionic-type surfactants that are approved for use on food crops and contain at least 80% active ingredients. Use 0.25 - 0.50% nonionic-type surfactant concentration (1 - 2 quarts per 100 gallons of spray solution). Use of SANDEA without an adjuvant when weeds are present may result in reduced efficacy. Use of crop oil concentrate (COC) or silicone-based adjuvants can result in increased crop injury and reduced yields and are not recommended for postemergence applications over the crop, unless stated otherwise.

## TANK MIXES

Unless stated in the “Application Instructions” section or allowed by supplemental labeling, tank mix combinations have not been evaluated and are the user’s responsibility. Refer to the companion product label for use instructions, additive requirements, weeds controlled, the size range of weeds that should be treated, and application restrictions. It is recommended that tank mixtures should be evaluated for miscibility and crop safety on a small test area prior to use. Tank mixtures should not be applied when the plants are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels), or other poor growing conditions.

## SPRAYER TANK CLEANOUT

To avoid injury to desirable crops, clean all mixing and spray equipment before and immediately following applications of SANDEA as follows:

1. Drain tank; thoroughly rinse spray tank, boom, and hoses with clean water. Remove the nozzles and screens and clean separately in a bucket containing agent and water. Loosen and physically remove any visible deposits.
2. Fill the tank with clean water and 1 gallon of household ammonia* (containing 3% ammonia) for every 100 gallons of water. Flush the hoses, boom, and nozzles with the cleaning solution. Then add more water to completely fill the tank. Circulate the cleaning solution through the tank and hoses for at least 15 minutes. Again flush the hoses, boom, and nozzles with the cleaning solution and then drain the tank.
3. Remove the nozzles and screens and clean separately in a bucket containing agent and water.
4. Repeat step 2.
5. Rinse the tank, boom, and hoses with clean water.
6. The rinsate may be disposed of on-site or at an approved disposal facility.

* Equivalent amount of an alternate strength ammonia solution can be used in the clean out procedure. Carefully read and follow the individual cleaner instructions.

## USE PRECAUTIONS

- Excessive amounts of water (greater than 1 inch) from rainfall or sprinkler irrigation soon after a preemergent application may cause crop injury. This potential injury can be enhanced if seeding depth is too shallow.
- Within 4 hours of a SANDEA application, avoid using overhead sprinkler irrigations or making applications when conditions favor rainfall.
- Broadcast applications of SANDEA over plastic mulch may result in significant crop injury when spray residue is concentrated in the plant hole by irrigation or rainfall. Properly crowned beds may minimize the potential for this injury.
- SANDEA can cause injury or crop failure under cool and wet growing conditions that delay early seedling emergence, vigor, or growth. Be especially cautious during the first planting of the season when these conditions are likely to occur.
- SANDEA may delay maturity of treated crops.
- SANDEA should not be applied if the crop or target weeds are under stress due to drought, water saturated soils, low fertility (especially low nitrogen levels), or other poor growing conditions.
- Use of soil or foliar applied organophosphate insecticides on SANDEA treated crops may increase the potential for crop injury and/or the severity of the crop injury.
- Avoid spray drift outside of targeted area.
- SANDEA may be applied to labeled crops (including cultivars and/or hybrids of these), however the user assumes responsibility for such use. Not all hybrids/varieties have been tested for sensitivity to SANDEA. For untested varieties, a small amount of the field should be sprayed to determine potential sensitivity to its use. Any plant injury arising from the use of SANDEA is the responsibility of the user.
- Thoroughly clean application equipment immediately after SANDEA use and prior to spraying another crop.
- Temporary yellowing or stunting of the crop may occur following SANDEA applications.
- Crop rotation intervals may need to be extended on drip irrigated crops in CA and AZ due to environmental conditions.
- Under certain environmental conditions, SANDEA applied over the top of a blooming crop may result in some bloom loss.

## USE RESTRICTIONS

- Do not apply SANDEA using air assisted (air blast) field crop sprayers.
- Do not apply this product through any type of irrigation system.
- Do not apply more than 2 oz of SANDEA per acre per 12 month period (includes applications to the crop and to row middles/furrows).

## FOR OPTIMUM RESULTS

The level of weed control following SANDEA application is dependent upon application rate and method, weed species, size and infestation intensity at application time, and growing conditions. Soon after SANDEA is applied, growth of susceptible weeds is inhibited, and they are no longer competitive with the crop. Following growth inhibition, the leaves and growing point begin to discolor. Complete control typically occurs within 7 - 14 days depending on the weed size, species, and growing conditions.

- Follow mixing instructions regarding adjuvants.
- **For preemergence applications:**
    - If susceptible weeds are present prior to crop emergence, use a surfactant as directed in the “Adjuvants” section.
    - Activating soil moisture is necessary for optimum preemergent weed control.
    - Preemergent weed control may be improved by incorporating SANDEA with irrigation (1/4 - 1/2 inch maximum).
- **For postemergence applications:**
    - Treat young actively growing broadleaf weeds 1 - 3 inches in height. Larger weeds may not be adequately controlled.
    - Treat actively growing nutsedge plants at the 3 - 5 leaf stage.
    - Wait to overhead sprinkler irrigate for 2 - 3 days after a postemergence application.
    - Avoid applications when weeds are under drought, stress, disease, or insect damage.
    - Use of SANDEA without an adjuvant can result in reduced efficacy.
- Heavy infestations should be treated early before the weeds become too competitive with the crop.
- A timely cultivation may be necessary to control suppressed weeds, weeds that were bigger than the maximum recommended size at application, weeds that emerge after an application, or weed species not on the SANDEA label. For best results, wait to cultivate treated soil area for 7 - 10 days after a postemergence application of SANDEA unless specified otherwise.
- Annual weeds may have multiple flushes of seedlings, or treated perennials may sometimes re-grow from underground stems or roots, depending upon rainfall and other environmental conditions. To maximize control of such weeds, it may be necessary to use sequential applications of SANDEA.

**WEEDS CONTROLLED BY SANDEA ALONE**

C = Control, S = Suppression, NA = No Activity

| WEED SPECIES | PREEMERGENT ACTIVITY | POSTEMERGENT ACTIVITY |
|---|---|---|
| Amaranth, spiny[2] *Amaranth spinosus* | C[2] | C[2] |
| Bindweed *Calystegia sepium* | NA | S |
| Burcucumber *Sicyos angulatus* | NA | S |
| California arrowhead[3] *Sagittaria montevidensis* | NA | C[3] |
| Chickweed, common *Stellaria media* | C | NA |
| Cocklebur, common *Xanthium strumarium* | C | C |
| Corn spurry *Spergula arvensis* | C | C |
| Dayflower* *Commelina erecta* | C | S |
| Deadnettle, purple *Lamium purpureum* | C | NA |
| Devils Claw *Proboscidea louisianica* | NA | C |
| Eclipta* *Ecilpta prostrata* | C | S |
| Flatsedge, rice*[3] *Cyperus iria* | S[3] | C[3] |
| Fleabane, Philadelphia *Erigeron philadelphicus* | NA | C |
| Galinsoga *Galinsoga* | C | C |
| Golden crownbeard* *Verbesina encelioides* | NA | C |
| Goosefoot *Chenopodium californicum* | C | C |
| Groundsel, common *Senecio vulgaris* | C | NA |
| Horseweed/Marestail[2] *Erigeron canadensis* | C[2] | NA |
| Horsetail *Equisetum arvense* | NA | S |
| Jimsonweed *Datura stramonium* | C | NA |
| Jointvetch *Aeschynomene virginica* | NA | C |
| Kochia[2] *Kochia scoparia* | C[2] | S[2] |
| Ladysthumb *Polygonum persicaria* | C | C |
| Lambsquarter, common *Chenopodium album* | C | NA |
| Lettuce, prickly *Lactuca serriola* | C | NA |
| Mallow, common *Malva neglecta* | C | NA |
| Mallow, Venice *Hibiscus trionum* | C | C |
| Mayweed chamomile (dog fennel) *Anthemis cotula* | C | NA |
| Milkweed, common *Asclepias syriaca* | NA | S |

| WEED SPECIES | PREEMERGENT ACTIVITY | POSTEMERGENT ACTIVITY |
|---|---|---|
| Milkweed, honeyvine *Ampelamus albidus* | NA | S |
| Morningglory, ivyleaf[3] *Ipomoea hederacea* | NA | S[3] |
| Morningglory, tall[3] *Ipomoea purpurea* | NA | S[3] |
| Mustard, wild *Sinapis arevensis* | C | C |
| Nutsedge, yellow[1] *Cyperus exculentus* | S | C[1] |
| Nutsedge, purple[1] *Cyperus rotundus* | S | C[1] |
| Passionflower, maypop *Passiflora incarnata* | NA | C |
| Pigweed, redroot[2] *Amarunthus retrofiexus* | C[2] | C[2] |
| Pigweed, smooth[2] *Amaranthus hybridus* | C[2] | C[2] |
| Plantain *Plantago major* | C | NA |
| Pokeweed, common *Phytolacca Americana* | NA | C |
| Purslane *Portulaca oleracea* | S | NA |
| Radish, wild *Raphanus raphanistrum* | C | C |
| Ragweed, common[2] *Ambrosia artemisiifolia* | C[2] | C[2] |
| Ragweed, giant[2] *Ambrosia trifida* | NA | C[2] |
| Redstem[3] *Ammania auriculata* | NA | C[3] |
| Ricefield Bulrush[2] *Scirpus mucronatus* | NA | C[2] |
| Sesbania, hemp *Sesbania exaltata* | S | C |
| Shepherdspurse *Capsella bursa-pastoris* | C | S |
| Sida, prickly* *Sida spinosa* | NA | S |
| Smallflower umbrella sedge[2] *Cyperus difformis* | NA | C[2] |
| Smartweed, Pennsylvania *Polyfonum pennsylvanicum* | C | S |
| Sunflower *Helianthus annuus* | C | C |
| Velvetleaf *Abutilan theophrasti* | C | C |
| Willowherb *Epilobium ciliatum* | C | NA |
| Yellowcress, creeping *Rorippa sylvestris* | C | C |

* Except California

1. Heavy infestations of nutsedge may require sequential applications. An earlier treatment may be required to prevent nutsedge from competing with the crop.
2. Certain biotypes of this weed species are known to be resistant to ALS herbicides. Where these ALS resistant biotypes are known to exist, an appropriate registered herbicide, active against the weed and with another mode of action, should be used alone or in tank mixtures with SANDEA to control these biotypes.
3. Use maximum label rates for best results.

**Table of Contents**

## APPLICATION INSTRUCTIONS

### PREHARVEST INTERVAL

The required days between last application and harvest (PHI) are given in ( ) after each crop name.

### CUCURBIT CROPS

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **CUCUMBERS (30)** *(including pickles)* **CANTALOUPES (57), HONEYDEWS (57), AND CRENSHAW MELONS (57)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>**Direct-seeded: Bare ground (no mulch)**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached at least 3 - 5 true leaves but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop.<br>**Direct-seeded: Plastic mulch**<br>• **Pre-seeding -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Crop may be seeded into this treated area no sooner than 7 days after application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has at least 3 - 5 true leaves but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop. Additional phytotoxicity may occur when applications are made over plastic due to concentration of product in the planting hole. **NOTE:** Over-the-top applications on plastic are not allowed in Northeastern and Midwestern states.<br>**Transplanted: Bare ground (no mulch)**<br>• **Pre-transplant -** Apply SANDEA as a pre-transplant application. Crop may be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established and actively growing. Applications should not be made until plants are actively growing and in the 3 - 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. SANDEA may be applied as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop.<br>**Transplanted: Plastic mulch**<br>• **Pre-transplant -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Crop may be transplanted into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established, actively growing and in the 3 - 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. Apply SANDEA as an over-the-top application, a directed spray application, or with crop shields to minimize contact of the herbicide with the crop. Additional phytotoxicity can occur when applications are made over plastic due to concentration of product in the transplant hole. **NOTE:** Over-the-top applications on plastic are not allowed in Northeastern and Midwestern states. |
| | | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | | **Split Applications for Nutsedge:**<br>• **Preemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence application to those areas where the nutsedge has emerged later following a preemergence application. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 1 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. Avoid contact of the herbicide with the planted crop.<br>• **Postemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Allow a minimum of 21 days between applications. Application rate should not exceed 1 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. Avoid contact of the herbicide with the planted crop. |
| | • A maximum of 2 applications may be made per crop-cycle.<br>• Do not apply more than 2 oz SANDEA per acre per crop-cycle not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middle/furrows).<br>• Runners that come in contact with the plastic can pick up residual SANDEA and may exhibit a visual crop response.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **PUMPKINS and WINTER SQUASH (30)** | 1/2 - 3/4 | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>**Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rates on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached the 2 - 5 true leaf stage, preferably 4 - 5 true leaves, but before first female flowers appear. Use lower rates on lighter textured soils with low organic matter.<br>**Transplanted:**<br>• **Pre-transplant -** Apply SANDEA prior to transplant. Crop may be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur.<br>• **Post-transplant -** Apply SANDEA to transplants that are established, actively growing and in the 3 - 5 true leaf stage or no sooner than 14 days after transplanting unless local conditions demonstrate safety at an earlier interval, but before first female flowers appear. SANDEA can be applied as an over-the-top application, a directed spray application or with crop shields to minimize contact of the herbicide with the crop. |
| | 1/2 - 1 | Apply uniformly as a broadcast spray with ground equipment in a minimum of 15 gallons of water per acre.<br>**FOR PROCESSING ONLY - Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rates on lighter textured soils with low organic matter.<br>• **Postemergence** - Apply SANDEA after the crop has reached the 2 - 5 true leaf stage, but before first female flowers appear. Use lower rates on lighter textured soils with low organic matter. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • A maximum of 2 applications may be made per crop-cycle.<br>• Do not apply more than 1 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles).<br>• Where possible, apply 1/2 - 3/4 inch of sprinkler irrigation to settle the soil after planting and prior to application.<br>• When rainfall or irrigation in excess of 3/4 inch occurs following a preemergence application and the crop is in the germination to early-seedling stage, there is the potential for significant plant stunting to occur.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |
| **SUMMER SQUASH FOR PROCESSING (30)**<br><br>**(AR, OK and MO only)** | 2/3 - 1 | Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre.<br>**Direct-seeded:**<br>• **Preemergence -** Apply SANDEA after planting, but prior to cracking. Use the lower rate on lighter textured soils with low organic matter. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications -** Apply SANDEA between rows of direct-seeded or transplanted summer squash. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. Avoid contact of the herbicide with the planted crop. |
| | • Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to Row Middle/Furrows).<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage Information. | |
| **WATERMELONS (57)**<br><br>**Only: AL, AR, AZ, CA, CT, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WA, WV, WI** | 1/2 - 3/4 | Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre.<br>**Direct-seeded: Bare ground**<br>• **Preemergence** - Apply SANDEA after planting, but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter. Where soil is fumigated prior to planting, allow at least five days after soil fumigation before an application of SANDEA.<br>**Direct Seeded: Plastic mulch**<br>• **Pre-seeding -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Watermelons should be seeded into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. SANDEA treated soil from the soil surface into the planting hole can result in crop injury. Care should be taken to limit movement of SANDEA treated surface soil during the transplant process.<br>**Transplanted: Bare ground**<br>• **Pre-transplant -** Apply SANDEA pre-transplant. Watermelons should be transplanted into this treated area no sooner than 7 days after application unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur. |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **WATERMELONS (57)**<br><br>**Only: AL, AR, AZ, CA, CT, DE, FL, GA, IL, IN, KS, KY, LA, MA, MD, ME, MI, MO, MS, NC, NH, NJ, NY, OH, OK, PA, RI, SC, TN, TX, VA, VT, WA, WV, WI**<br>(continued) | 1/2 - 3/4 | **Transplanted: Plastic mulch**<br>• **Pre-transplant -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Watermelons should be transplanted into this treated area no sooner than 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. Use the lower rate on lighter textured soils with low organic matter. Care should be taken to limit movement of SANDEA treated surface soil during the transplanting process since if treated soils is moved into the transplant hole injury can occur. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle Applications** - Apply SANDEA between rows of direct-seeded or transplanted crop, while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply more than 1 oz of SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middle).<br>• Runners that come in contact with the plastic can pick up residual SANDEA and may exhibit a visual crop response.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **OTHER COMMODITIES IN THE CUCURBIT VEGETABLES GROUP**<br>*Including but not limited to summer squash, gourd, watermelon* **(See text for PHI)** | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• Row Middle/Furrow Applications - Apply SANDEA between rows of direct-seeded or transplanted cucurbit vegetables while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply within 30 days of harvest for squash/cucumber subgroup.<br>• Do not apply within 57 days of harvest for melon subgroup.<br>• Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |

**FRUITING VEGETABLE CROPS**

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **PEPPERS, BELL/CHILE (30)**<br><br>**AZ, CA, NM, TX and OK Only** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre.<br>**Direct-seeded:**<br>• **Postemergence** - Apply SANDEA as a directed spray 28 days after planting or when the plants have reached a minimum of six inches in height, but prior to flowering. Use lower rates on lighter textured soils with low organic matter.<br>**Transplanted:**<br>• **Post-transplant -** Apply SANDEA as a directed spray 21 days after transplanting or when the plants have reached a minimum of six inches in height, but prior to flowering. |
| | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications -** Apply SANDEA between rows of direct-seeded or transplanted peppers while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • A maximum of 2 applications may be made per crop-cycle.<br>• Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middle/furrows).<br>• Not all pepper varieties have been tested.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **TOMATOES (30)** | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre.<br>**Direct-seeded:**<br>• **Postemergence -** Apply SANDEA over-the-top once tomatoes have reached the 4 leaf stage through 30 days prior to harvest. Applications following bloom could cause some bloom drop under certain environmental conditions. Apply as a directed spray or with crop shield when these conditions are present.<br>**Transplanted:**<br>• **Pre-transplant on Bareground -** Apply SANDEA as a pre-plant application to bareground. Tomatoes can be transplanted into this treated area 7 days after the application unless local conditions demonstrate safety at an earlier interval. Use lower rate on lighter textured soils with low organic matter. SANDEA treated soil from the soil surface into the transplant hole can result in crop injury. Care should be taken to limit the movement of treated surface soil during the transplant process.<br>• **Pre-transplant Under Plastic Mulch Applications -** Apply SANDEA following final bed shaping and just prior to the installation of the plastic mulch. Tomatoes can be transplanted into this treated area 7 days after the application and the installation of the plastic mulch unless local conditions demonstrate safety at an earlier interval. SANDEA treated soil from the soil surface into the transplant hole can result in crop injury. Care should be taken to limit movement of SANDEA treated surface soil during the transplant process.<br>• **Post-transplant -** Apply SANDEA over-the-top, post directed, or with crop shields to tomato transplants that are established, actively growing, and a minimum of 14 days after transplanting unless local conditions demonstrate safety at an earlier interval. Applications following bloom could cause some bloom drop under certain environmental conditions. Application as a directed spray or with crop shields should be considered when conditions are present. |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **TOMATOES (30)** (continued) | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows for the control of nutsedge and listed broadleaf weeds. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed.<br><br>**<u>Split Applications for Nutsedge</u>**<br>**Direct-seeded and Transplant:**<br>• **Pre-transplant followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence application to those areas where the nutsedge has broken through the plastic mulch. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. SANDEA treated soil in the transplant hole may result in crop injury. If transplanting after herbicide application, care should be taken to limit movement of SANDEA treated soil during the transplant process.<br>• **Postemergence followed by postemergence for nutsedge control**<br>To maximize control of nutsedge, it may be necessary to use a postemergence spot application to those areas where the nutsedge has germinated or regrown. Allow a minimum of 21 days between applications. Application rate should not exceed 1 oz product per treated acre in these areas. |
| | • A maximum of 2 applications may be made per crop-cycle.<br>• Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles/furrows).<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |
| **FRUITING VEGETABLES GROUP (30)** *Including but not limited to eggplant, peppers, tomatoes* | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications** - Apply SANDEA between rows of direct-seeded or transplanted fruiting vegetables while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |

**PERMANENT CROPS**

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **APPLE (14)** (West of the Rockies) | 3/4 - 2 | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>Apply as a broadcast application to orchard floor on each side of the tree rows.<br><br>• **Postemergence application for control of nutsedge:**<br>Apply SANDEA as a single application when nutsedge is fully emerged (early – midsummer). Alternatively, 2 applications can be made. Apply first application to the initial nutsedge flush when it has reached the 3 - 5 leaf stage. If a second treatment is needed, apply SANDEA later in the season directed to secondary nutsedge emergence. To maximize nutsedge control, do not apply if nutsedge has exceeded 12 inches in height.<br>• **Preemergence and Postemergence application for control of labeled broadleaf weeds:**<br>Apply SANDEA as a single or sequential application based on weed pressure. If small weeds are present, to maximize and enhance the spectrum of broadleaf control tank mix with a postemergence broad spectrum type herbicide.<br><br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity. |
| | • Use a NIS or penetrating type surfactant.<br>• Avoid spray contact with tree foliage and fruit with spray or drift.<br>• Do not apply when orchard temperatures exceed 85°F at the time of application.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to trees established in a permanent orchard less than one calendar year.<br>• Do not apply to nursery stock.<br>• SANDEA may not control ALS resistant weeds.<br>• Do not apply more than 2 oz of SANDEA per acre per crop cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **APPLE (14)** (East of the Rockies) | 1/2 - 1 | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>Apply as a broadcast application to orchard floor on each side of the tree rows.<br><br>• **Postemergence application for control of nutsedge:**<br>Apply SANDEA as a single application when nutsedge is fully emerged. Alternatively, 2 applications can be made. Apply first application to the initial nutsedge flush when it has reached the 3 - 5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize nutsedge control, apply SANDEA when nutsedge plants are in the 3 - 5 leaf stage. For best results, use a minimum of 0.75 oz/A of SANDEA.<br>• **Preemergence and Postemergence application for control of labeled broadleaf weeds:**<br>Apply SANDEA as a single or sequential application based on weed pressure. For best results, apply to bare ground. If small weeds are present, to maximize and enhance the spectrum of broadleaf control tank mix with a postemergence broad-spectrum type herbicide.<br><br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity. |
| | • For best results, use a NIS with postemergence applications.<br>• Avoid spray or drift contact with tree foliage and fruit.<br>• Do not apply when orchard temperatures exceed 85°F at the time of application.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to trees established in a permanent orchard less than one calendar year.<br>• Do not apply to nursery stock.<br>• SANDEA may not control ALS resistant weeds.<br>• Do not apply more than 2 oz of SANDEA per acre per 12 month period.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information. | |
| **13-07B HIGHBUSH BLUEBERRIES (14)** | 1/2 - 2/3<br>1 - 4 year bushes<br><br>1/2 -1<br>>4 year bushes | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>Apply as a directed spray application to the ground on either side of the row.<br><br>• **Preemergence and Postemergence directed application for control of labeled weeds:**<br>Apply SANDEA as a single or sequential directed spray application. If small weeds are present tank mix with a postemergence broad-spectrum type herbicide to maximize and enhance the spectrum of broadleaf and grass control.<br>Preemergence applications of SANDEA when ground cover prevents contact with the soil will result in reduced or no residual activity<br>• **Postemergence directed application for control of nutsedge:**<br>Apply SANDEA as a single directed spray application when nutsedge is fully emerged. Alternatively, 2 directed spray applications can be made. Apply first directed spray application to the initial nutsedge flush when it has reached the 3 - 5 leaf stage. If a second treatment is needed, it may be applied later in the season directed to secondary nutsedge emergence. To maximize control, apply SANDEA when nutsedge plants are in the 3 - 5 leaf stage. For best results, use a minimum of 0.75 oz/A of SANDEA.<br><br>Contact of SANDEA with the blueberry bushes should be avoided. Contact will result in temporary chlorosis of treated leaves. Use of a shielded boom is recommended. |
| | • Minimum of 45 days between applications.<br>• Do not concentrate the application rate into the treated swath.<br>• Do not apply to bushes established less than one year or to plants under stress.<br>• Do not apply to ‘Elliott’ variety bushes established less than four years.<br>• Do not apply to areas where water is known to pond for periods of time following rainfall.<br>• Do not contact foliage or green wood renewal canes with SANDEA. Herbicide uptake via contacted foliage or green canes will result in plant injury.<br>• SANDEA may not control ALS resistant weeds.<br>• Do not apply more than 2 oz of SANDEA per acre per 12 month period.<br>• Consult “Use Precautions” and “For Optimum Results” sections of label for important usage information. | |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **TREE NUT CROP GROUP 14 (1)** (excluding Almonds) | 2/3 - 1 1/3 | Apply SANDEA as a directed spray to established tree nut crops. Established tree nut crops are defined as those that have been transplanted into their final growing location for a period of at least 12 months, and where the soil has firmly settled around the roots from packing and rainfall or irrigation.<br>• Extreme care must be exercised to avoid contact of spray containing SANDEA with trunk, stems, roots, or foliage of tree nut crops, or severe damage or death may result.<br>• Labeled rates are based on broadcast treatment. For band applications reduce the broadcast rate of SANDEA in proportion to the area actually sprayed. For all applications, adjust the rate of SANDEA to account for high volume output nozzles, such as off-center nozzles, and overlaps in the spray pattern. Use of controlled droplet application, spot application, irrigation, or chemigation equipment for application of this product is not recommended due to variations in the actual application rate. Excessive application rates can result in severe tree injury or death.<br>• Use a maximum of 1 oz by weight (0.047 lb active ingredient) SANDEA per acre on coarse textured soils classified as sands, loamy sands, and sandy loams with less than 18% clay and more than 65% sand, or on soils with less than 1% organic matter. Do not apply to gravely soils. For the best results apply SANDEA in the spring when nutsedge is not drought stressed and maximize the interval between application and subsequent irrigation.<br>• Mechanical cultivation or mowing may be required to control weed species not on the SANDEA label. If so, a sequential treatment may be required to control weeds in areas of disturbed soil.<br>• If SANDEA is applied to trees that have been weakened by or recovering from stress caused by, but not limited to, excessive fertilizer or soil salts, disease, nematodes, frost, wind injury, drought, flooding, previously applied pesticides, insects, winter injury, soil pan of any type, nutrient deficiency, or mechanical damage, severe injury or death may result. Application of SANDEA to weakened or stressed trees as described, especially in soils with less than 1% organic matter, significantly increases the probability of severe injury or death. All such risks shall be assumed by the user.<br>• **SANDEA may be applied at 2/3 - 1 1/3 oz by weight per acre in combination with glyphosate agricultural herbicides for control of emerged annual grasses, broadleaf weeds and nutsedge.** |
| | Also refer to the "**ROTATIONAL CROP INFORMATION**" section of this label for applicable rotational crop restrictions.<br>• SANDEA can be applied up to 2 applications with a total of all applications not to exceed 2 2/3 oz of product by weight (0.125 lb active ingredient) per acre per use season. On coarse textured soils classified as sand, loamy sand, and sandy loam with less than 18% clay and more than 65% sand, or on soils with less than 1% organic matter, SANDEA may be applied up to 2 applications with a total of all applications not to exceed 2 oz of product by weight (0.094 lb active ingredient) per acre per use season.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **BEANS, DRY (30)** | 1/2 - 2/3 | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>**Direct-seeded:**<br>• **Preemergence -** Apply SANDEA after planting but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• **Postemergence -** Apply SANDEA when plants have 1 - 3 trifoliate leaves, but before flowering. Applications with a weed size of 6 inches or below will allow for the greatest control. Make only 1 broadcast application per season.<br>• Only apply as a post directed row middle or furrow application in the state of California.<br><br>**<u>Tank Mixtures for Dry Beans:</u>**<br>• Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures. Be sure to follow the specifications listed on the most restrictive label when planning and making applications.<br>Tank mixtures for additional broadleaf weed control can be added.<br>• Tank mixtures for postemergent grass control, including but not limited to TARGA® or other graminicides can be added.<br>• Not all varieties have been tested for tolerance. Under adverse growing conditions (dry or excessive moisture, cool weather, etc.), maturity of the treated crop may be delayed which can influence harvest date, yield, and quality. Use of COC or MSO adjuvant may cause temporary crop response when plants are under stress. COC or MSO adjuvants can only be used in the states of CO, MN, NE, ND, and SD. |
| | 1/2 -1 | • **Row Middle/Furrow Applications for Dry Beans -** Apply SANDEA between crop rows while avoiding contact of the herbicide with the planted crop. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply more than 1 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles/furrows).<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| | SANDEA @ 1/2 – 2/3 oz<br>Plus<br>EPTAM® 7-E @ 3 1/2 – 4 1/2 pts. | Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>**Preplant or At Planting:**<br>• **Incorporation:** Apply and incorporate 1/2 - 2/3oz SANDEA and 3 1/2 - 4 1/2 pints EPTAM 7-E per acre to a depth of approximately 2 inches just before planting. Use lower rate on lighter textured soils with low organic matter. Refer to EPTAM 7-E label for specific incorporation directions. Rotary hoe lightly during or shortly after emergence of the beans to break any crust which occurs. |
| | • Do not apply more than 2/3 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles/furrows).<br>• Do not use EPTAM 7-E on Adzuki beans, cowpeas (black-eyed peas, black-eyed beans), Mung beans, or garbanzo beans. Under abnormal weather conditions, stunting may occur on Gratiot, Michilite, Sanilac, Seafarer, and Seaway varieties. Do not exceed 9 pints EPTAM 7-E per acre per crop.<br>• Do not exceed 3 1/2 pints EPTAM 7-E per acre on small white beans or green beans grown on coarse textured soils.<br>• Do not exceed 7 pints per acre per crop of EPTAM 7-E in the Southwestern and Southeastern regions. Do not exceed 8 pints per acre per crop of EPTAM 7-E in the Western Region. Do not exceed 9 pints per acre per crop of EPTAM 7-E in the Pacific Northwestern Region. Do not exceed 9 3/4 pints of EPTAM 7-E in the Northern Region.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• A tank mix combination of SANDEA plus EPTAM 7-E will give a broader spectrum of weed control than either product used separately.<br>• **Caution: Read both the SANDEA and EPTAM 7-E labels carefully before using. Observe all cautions and limitations on labeling of both products.** | |
| **BEANS, SUCCULENT SNAP (30)** (*including lima beans)* | 1/2 - 1 | **Direct-seeded:**<br>• **Preemergence** - Apply SANDEA after planting but prior to soil cracking. Use the lower rate on lighter textured soils with low organic matter.<br>• Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre. |
| | 1/2 - 2/3 | **Direct-seeded:**<br>• **Postemergence** - Apply SANDEA over-the-top after the crop has reached the 2 - 4 trifoliate leaf stage, but before flowering. Use the lower rate on lighter textured soils with low organic matter. Directed sprays may limit crop injury. |
| | 1/2 - 1 | • **Row Middle/Furrow Applications** - Apply SANDEA between crop rows while avoiding contact of the herbicide with the planted crop. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply more than 1 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles/furrows).<br>• Application of SANDEA may cause temporary stunting.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| | SANDEA @ 1/2 – 1 oz<br>Plus<br>EPTAM 7E @ 3 1/2 – 4 1/2 pts. | **Preplant or At Planting:**<br>Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>• **Incorporation:** Apply and incorporate 1/2 - 1 oz SANDEA and 3 1/2 - 4 1/2 pints EPTAM 7-E per acre to a depth of approximately 2 inches just before planting. Use lower rate on lighter textured soils with low organic matter. Refer to EPTAM 7-E label for specific incorporation directions. Rotary hoe lightly during or shortly after emergence of the beans to break any crust which occurs. |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **BEANS, SUCCULENT SNAP (30)** (*including lima beans)* (continued) | • Do not apply more than 1 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period (includes applications to the crop and to row middles/furrows).<br>• Do not use EPTAM 7-E on flat-podded beans except Romano.<br>• Do not exceed 3 1/2 pints EPTAM 7-E per acre on green beans grown on coarse textured soils.<br>• Do not exceed 7 pints per acre per crop of Eptam in the Southwestern and Southeastern regions. Do not exceed 8 pints per acre per crop of EPTAM 7-E in the Western Region. Do not exceed 9 pints per acre per crop of EPTAM 7-E in the Pacific Northwestern Region. Do not exceed 9 3/4 pints of EPTAM 7-E in the Northern Region.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• A tank mix combination of SANDEA plus EPTAM 7-E will give a broader spectrum of weed control than either product used separately.<br>• **Caution: Read both the SANDEA and EPTAM 7-E labels carefully before using. Observe all cautions and limitations on labeling of both products.** | |
| **6B SUCCULENT SHELLED PEA AND BEAN SUBGROUP (30)** (Any succulent shelled cultivar of bean (Phaseolus) including lima bean, green; broad bean, succulent; (Vigna) including blackeyed pea, cowpea, southern pea (Pisum) including English pea, garden pea. green pea, and pigeon pea | 1/2 | **Preemergence application for control of labeled broadleaf weeds -** Apply SANDEA as a single broadcast application after planting but before crop emergence.<br><br>**Application of SANDEA may cause significant, temporary stunting and delay maturity of peas resulting in delayed harvest. This product is available to the end-user /grower solely to the extent that the benefit and utility, in the sole opinion of the end-user/grower, outweigh the extent of potential injury associated with the use of this product. Due to the risk of crop damage, all such use is at the end-user/growers risk.** |
| | • Do not apply more than 1/2 oz of SANDEA per acre per year.<br>• SANDEA may not control ALS resistant weeds.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• Do not feed to livestock. | |
| | 1/2 - 1 | **Postemergence –** Apply SANDEA uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>Apply as a directed spray when plants have 2 - 4 trifoliate leaves and before flowering. Make one broadcast application. Directed sprays are recommended to limit crop injury.<br><br>Use a NIS.<br><br>**Not all varieties have been tested for tolerance. Under adverse growing conditions (dry or excessive moisture, cool weather, etc.), maturity of the treated crop may be delayed which can influence harvest date, yield, and quality. For untested varieties, a small area of the field should be sprayed to determine potential sensitivity to its use.** |
| | • SANDEA may not control ALS resistant weeds.<br>• Do not apply more than 1 oz of SANDEA per acre per crop cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information.<br>• Do not feed to livestock. | |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **CORN, FIELD AND FIELD CORN GROWN FOR SEED (30)** | 2/3 - 1 1/3 | **Postemergence** - Apply SANDEA over-the-top or with drop nozzles from the spike-through layby stage of field corn.<br><br>**Tank Mixtures for Corn Only**<br>Ensure that spray equipment is set up to avoid applying an excessive rate directly over the rows and into the whorl of the cornstalk. To insure good spray coverage of weeds and to reduce the risk of spraying directly into the whorl, tank mix applications made after corn is 24 inches tall should be directed or semi-directed using drop nozzles.<br>**SANDEA Post Field Corn Applications**<br>Refer to **"MIXING INSTRUCTIONS," and "USE RATE GUIDES"** sections of this label for detailed information on SANDEA application.<br>**Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures. Be sure to follow the specifications listed on the most restrictive label when planning and making applications.**<br>Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. For tank mixtures, add individual formulations to a spray tank in the following sequence: water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by NIS or COC.<br>Tank mixtures should not be applied if the crop is under severe stress due to drought, water-saturated soils, poor fertility (especially low nitrogen levels), hail, frost, insects or when the maximum daytime temperature is above 92° F at time of application. Tank mix applications under these conditions may cause temporary crop injury.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, Armezon™, atrazine, Buctril®, Callisto®, dicamba, Impact®, Laudis® or Yukon® can be added.<br><br>Tank mixtures for postemergeence grass control, including but not limited to Accent®, Beacon®, Option® or Steadfast® can be added. |

<table>
<tr><th>CROP</th><th>OZ/ACRE</th><th>COMMENTS</th></tr>
<tr><td rowspan="3">CORN, FIELD AND FIELD CORN GROWN FOR SEED (30)<br>(continued)</td><td>2/3 - 1 1/3</td><td>Tank mixtures for additional postemergence grass and broadleaf control, including but not limited to Roundup® brands or glyphosate (glyphosate-tolerant corn only) or Ignite® and Liberty® (LibertyLink® hybrids only) can be added.<br><br>Refer to the specific product labels and observe all precautions, mixing and application instructions, and follow-crop intervals for all products used in tank mixtures.<br><br>SANDEA and SOIL RESIDUALS in emerged corn<br>Alachlor, acetochlor, metolachlor and dimethenamid may be tank mixed with SANDEA for residual control of foxtails and other grass weeds in field corn.</td></tr>
<tr><td colspan="2">• SANDEA may be applied up to 2 applications with a total application not to exceed 2 2/3 oz of product by weight (0.125 lb active ingredient) per acre per use season.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage.<br>• Refer to the “ROTATIONAL CROP INFORMATION” for applicable rotational crop restrictions.</td></tr>
<tr><td colspan="2"><u>SANDEA Soil Applications</u><br>When used exclusively with Pioneer IR field corn hybrids, SANDEA may be soil applied at the rate of 1 1/3 - 2 oz per acre (0.062 - 0.094 lb of active ingredient per acre) for residual control of velvetleaf, common cocklebur, common lambsquarters, common ragweed, pigweed, smartweed, sunflower, and other difficult to control weeds.<br>This product is labeled as an early pre-plant surface-applied, pre-plant incorporated, or preemergence treatment. SANDEA offers effective broadleaf control across all tillage systems and is intended for use in tank mixtures with preemergence grass herbicides, including but not limited to: alachlor, acetochlor, metolachlor, and dimethenamid active ingredient materials.<br>Refer to the labels for these products, or any other grass preemergence herbicide used for use instructions, weeds controlled, and application restrictions.</td></tr>
<tr><td rowspan="2">CORN, SWEET AND POPCORN (30)</td><td>2/3 - 1</td><td>Apply SANDEA over-the-top or with drop nozzles from the spike through layby stage of the corn. If necessary, a sequential treatment of this product at 2/3 oz per acre may be applied only with drop nozzles semi-directed or directed to avoid application into the corn plant whorl.</td></tr>
<tr><td colspan="2">• No more than 2 applications of SANDEA per 12 month period in sweet corn or popcorn.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage.<br>• Do not use SANDEA on “Jubilee” sweet corn. All varieties have not been tested for sensitivity to SANDEA.<br>• Any injury arising from use of SANDEA is the responsibility of the user.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</td></tr>
<tr><td rowspan="2">COTTON (28)</td><td>2/3 - 1 1/3</td><td>Apply SANDEA as a directed spray in hooded equipment for postemergent weed control in emerged cotton. Applications may be made anytime after cotton emergence until row closure inhibits use of hooded spray equipment. The applicator is responsible for maintaining proper spray speed and equipment position so spray mist does not contact cotton plants.</td></tr>
<tr><td colspan="2">• Do not apply more than 1 1/3 oz SANDEA per acre per crop-cycle, not to exceed 1 1/3 oz per acre per 12 month period.<br>• Also refer to the “Rotational Crop Information” for applicable rotational crop restrictions.<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</td></tr>
<tr><td rowspan="2">MILLET, PROSO<br><br>(0 Millet Forage)<br><br>(50 Millet Grain and Straw)<br><br>(37 Millet Hay)</td><td>1/2 - 2/3</td><td>Millet Growth Stage: SANDEA, alone, can be applied from the 2 leaf through layby stage (before grain head emergence).<br><br>Temporary stature reduction may occur to the crop following application of SANDEA if the proso millet is under stress. This effect will be most evident 7 - 10 days after application. The crop will quickly recover under normal growing conditions. Applications should be made after weed emergence and actively growing. If adding a tank mix, refer to the tank mix section of this label.<br><br><u>TANK MIXTURES</u><br>Refer to “MIXING INSTRUCTIONS,” and “USE RATE GUIDES” sections of this label for detailed information on SANDEA application.<br>Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures. Be sure to follow the specifications listed on the most restrictive label when planning and making applications.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, and dicamba can be added.<br><br>Insecticide and fungicide products can be tank mixed with SANDEA.</td></tr>
<tr><td colspan="2">• Do not exceed 2/3 oz/A of SANDEA per 12 month period.<br>• 0 Day Pre grazing interval for grass forage for ALL animals (lactating and non-lactating).<br>• Consult “Use Precautions” and “For Optimum Results” sections for important usage information.<br>• Listed day intervals following an application of SANDEA.
<table>
<tr><th rowspan="2">Crop</th><th colspan="3">All Animals (Lactating and Non-lactating)</th></tr>
<tr><th>Pre-Grazing Interval (PGI)</th><th>Pre-Harvest Interval (PHI)</th><th>Pre-Slaughter Interval (PSI)</th></tr>
<tr><td>Millet Forage</td><td>0</td><td>0</td><td>0</td></tr>
<tr><td>Millet Grain</td><td>N/A</td><td>50</td><td>0</td></tr>
<tr><td>Millet Straw</td><td>N/A</td><td>50</td><td>0</td></tr>
<tr><td>Millet Hay</td><td>N/A</td><td>37</td><td>0</td></tr>
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| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **RICE (48, CA 69)** | 2/3 - 1 1/3 | **Pre-plant, at planting, preemergence and postemergence applications to rice**<br>• **Pre-plant:** Apply SANDEA at 2/3 oz per acre in combination with glyphosate or other suitable agricultural herbicides for burn down of emerged annual grasses, broadleaf weeds and nutsedge. If this product is applied pre-plant burn down, refer to "TIME INTERVAL BEFORE PLANTING" table in complete directions for use.<br>• **Preemergence and Postemergence:** Apply SANDEA for postemergent weed control from prior to the emergence of rice until after permanent flood is established. Apply SANDEA at 2/3 - 1 1/3 oz per acre, with the total application rate not to exceed 1 1/3 oz of product (0.062 lb active ingredient) per acre per use season. |
| | | SANDEA can be applied as a foliar spray or dry broadcast.<br>SANDEA can be tank mixed with Propanil containing rice herbicides (e.g. Stam and Propanil 4E) at 2/3 - 1 1/3 oz per acre of this herbicide and labeled rates of the tank mix products.<br><br>Foliar applications of SANDEA can be made at the 3 - 5 leaf stage of rice when weeds have 2 - 4 leaves. Dry broadcast applications can be made at the 1 - 2 leaf stage of rice when weeds have two leaves or less.<br><br>SANDEA can also be applied post flood with dry broadcast applications of SANDEA at 1 - 1 1/3 oz by weight per acre, with the total application rate not to exceed 1 1/3 oz product by weight per acre per use season.<br><br>It is best to use 0.25 - 0.5% NIS which contains at least 80% active ingredient with foliar applications of SANDEA.<br><br>With all foliar applications of SANDEA use a minimum 3 - 15 gallons of water per acre for aerial equipment and a minimum of 10 gallons of water per acre for ground equipment. It is best to apply spray solutions the day they are mixed. **NOTE:** See "APPLICATION EQUIPMENT AND INSTRUCTIONS" section for spray drift management techniques.<br><br>Water levels in rice fields and checks should remain static (3 - 6 inch depth) following dry broadcast applications of SANDEA. Do not reintroduce water into rice fields or checks for at least five days following dry broadcast applications of SANDEA. Rice fields and checks may be irrigated to maintain water level, but this may reduce weed control.<br><br>Control of emerged weeds with foliar applications is best when 70% - 80% of the weed foliage is exposed. Control of submerged weeds is best when weeds have 2 leaves or less. Do not reintroduce water into rice fields or checks for at least 24 hours following foliar applications of SANDEA.<br><br>Do not apply within 48 days of harvest. Do not apply within 69 days of harvest in California.<br>CAUTION: To ensure product effectiveness avoid using SANDEA on rice fields which have a history of weed biotypes resistant to ALS herbicides.<br><br>**SANDEA Tank Mixture Options in Rice**<br>Refer to "MIXING INSTRUCTIONS," and "USE RATE GUIDES" sections of this label for detailed information on SANDEA application.<br>Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures. Be sure to follow the specifications listed on the most restrictive label when planning and making applications.<br>Before mixing in the spray tank, it is recommended that compatibility be tested by mixing all components in a small container in proportionate quantities. For tank mixtures, add individual formulations to a spray tank in the following sequence: water soluble bags, dry flowables, emulsifiable concentrates, drift control additive, water soluble liquids followed by NIS or COC.<br>Tank mixtures should not be applied if the crop is under severe stress due to drought, poor fertility (especially low nitrogen levels), hail, frost and insects. Tank mix applications under these conditions may cause temporary crop injury.<br>• **Preemergence & Pre-Plant Applications:** Tank mixtures for additional preemergence weed control, including but not limited to Bolero®, Command® 3ME, glyphosate, pendimethalin or quinclorac can be added.<br>• **Postemergence Applications:** Tank mixtures for additional broadleaf weed control, including but not limited to Grandstand®, Propanil and Propanil products, Aim®, Facet®, Basagran®, Londax®, Grasp®, Regiment® , NewPath®, Beyond® and 2-4-D can be added.<br>Tank mixtures for postemergence grass control, including but not limited to Newpath®, Beyond®, Propanil, Facet®, Grasp®, and Regiment® can be added.<br><br>Insecticide and fungicide products can be tank mixed with SANDEA.<br>Refer to the specific product labels and observe all precautions, mixing and application instructions, and follow-crop intervals for all products used in tank mixtures.<br><br>Sequential Applications: SANDEA can be applied sequentially with Ordram®, Bolero®, Clincher®, Regiment® and Shark®. Read the Ordram, Bolero, Clincher, Regiment and Shark labels for application information, restrictions, and precautions. |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **SORGHUM, GRAIN (MILO) (30)** | 2/3 - 1 | **Postemergence -** Apply SANDEA from the 2 leaf through layby stage (before grain head emergence).<br>Temporary stature reduction may occur to the crop following application of SANDEA if the grain sorghum is under stress. This effect will be most evident 7 - 10 days after application. The crop will quickly recover under normal growing conditions.<br>**Tank Mixtures for Grain Sorghum**<br>Tank mixtures with SANDEA can include, but are not limited to atrazine, Buctril® or 2,4-D.<br>Refer to the specific product labels and observe all precautions, mixing and application instructions, and follow crop intervals for all products used in tank mixtures. |
| | • Only apply SANDEA in a single application with the total application rate not to exceed 1.0 oz of product by weight (0.047 lb active ingredient) per acre per use season.<br>• Following application to foliage, allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **SUGARCANE (30)** | 2/3 - 1 1/3 | When used alone, apply SANDEA prior to planting, prior to emergence or after the emergence of the sugarcane, and until row closure. Mechanical cultivation may be required to control weed species not on the label. If so, a **sequential treatment** may be required to control weeds in areas of disturbed soil.<br>Apply SANDEA at 2/3 - 1 1/3 oz by weight per acre (0.031 - 0.062 lb active ingredient per acre) in combination with glyphosate agricultural herbicides for pre-plant burn down of emerged annual grasses, broadleaf weeds and nutsedge in sugarcane.<br>**Tank Mixtures for Sugarcane**<br>Tank mixtures with SANDEA can include, but are not limited to Asulox®, atrazine , Callisto®, Envoke®, Evik® , glyphosate, or 2,4-D.<br>Refer to the specific product labels and observe all precautions, mixing and application instructions, and follow crop intervals for all products used in tank mixtures. |
| | • Refer to the "**ROTATIONAL CROP INFORMATION**" section of this label for applicable rotational crop restrictions.<br>• No more than 3 applications (including pre-plant applications) may be made with the total use rate not to exceed 2 2/3 oz of product by weight (0.125 lb active ingredient) per acre per year.<br>• Following application to foliage allow 30 days before grazing domestic livestock, harvesting forage, or harvesting silage.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |

**OTHER CROPS AND APPLICATIONS**

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **ALFALFA (14)**<br><br>**CA & AZ Only** | 2/3 - 1 | **Established Fields**<br>• **Postemergence Broadcast -** Apply SANDEA as a broadcast application to established alfalfa. Alfalfa should be well established in the field for a minimum of 6 months prior to application of SANDEA. Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre. Use a water volume that will provide uniform coverage of plants. It is recommended to make an application as soon as possible after removal of hay from the field and prior to an irrigation to minimize crop injury. Wait for at least 48 hours after application before irrigation.<br>• **Postemergence Spot Treatment -** Apply SANDEA as a spot treatment application to only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for<br>• **Postemergence followed by Postemergence -** To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate must not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. This use pattern will result in greater potential of growth and yield reduction. |
| | **Research has shown that alfalfa growth and yields will be reduced for one or more cuttings after a SANDEA application. Application of SANDEA to alfalfa where re-growth exceeds 6" will result in greater yield reduction. Symptoms may be temporary. Follow all directions carefully to minimize potential reduced plant growth and yield. Apply uniformly with ground equipment in a minimum of 20 gallons of water per acre. Use a water volume that will provide uniform coverage of plants.** | |
| | • Do not apply more than 2 oz of SANDEA per acre per crop cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **ARTICHOKE (5)** | 1 – 2 | Apply SANDEA uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br>Apply as a broadcast application to the ground on either side of the row and winter ditches while avoiding crop foliage.<br>• **Row Middle -** Apply SANDEA between rows of perennial artichokes for the control of nutsedge and listed broadleaf weeds. Applications should be made when oxalis is in full bloom. Avoid contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. To maximize nutsedge control, apply when plants are in the 3 - 5 leaf stage<br><br>**Application of SANDEA may cause significant, temporary stunting and delay maturity of artichokes if sprayed directly. This product is available to the end-user /grower solely to the extent that the benefit and utility, in the sole opinion of the end-user/grower, outweigh the extent of potential injury associated with the use of this product. Due to the risk of crop damage, all such use is at the end-user/growers risk.** |

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **ARTICHOKE (5)** (continued) | • For best results, use a NIS with applications.<br>• Use rates are broadcast per acre. Reduce rate and spray volume in proportion to area actually sprayed.<br>• Do not apply by air.<br>• SANDEA may not control ALS resistant weeds.<br>• Do not apply more than 2 oz of SANDEA per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **ASPARAGUS (1)** | 1/2 - 1 1/2 | Apply uniformly with ground equipment in a minimum of 15 gallons per acre.<br>**Nursery, Transplanted Crowns and Established Beds**<br>• **Postemergence/Post transplant -** Apply SANDEA to asparagus before or during the harvesting season. SANDEA may cause a temporary stunting or twisting of fern on certain asparagus varieties when applied during spear emergence. The addition of surfactants and postemergent grass herbicides may accentuate the crop response. Spectrum and degree of weed control may be reduced where SANDEA is used without a surfactant.<br>• **Post-harvest** - Apply SANDEA at the end of the harvest season. Under heavy nutsedge pressure, split applications are recommended. Contact with the fern may cause temporary yellowing. A NIS or COC should be used with post-harvest applications. Crop injury will be minimized and weeds control will be more effective when applications are made with drop nozzles as a directed spray below the ferns to allow for more complete coverage of target weeds.<br>• **Split application for enhanced control of nutsedge -** Apply a split application with 3/4 - 1 oz product per acre during the cutting/harvesting season when the first flush of nutsedge is in the 3 - 5 leaf stage, followed by a second application of 3/4 - 1 oz product per acre at least 21 - 30 days later up to lay-by to control later flushes of nutsedge. SANDEA can be applied post-harvest during the fern stage. Contact with the fern may cause temporary yellowing. Crop injury will be minimized and nutsedge more effectively controlled when applications are made with drop nozzles directing the spray below the ferns allowing for more complete coverage of nutsedge. |
| | • For first year transplants, apply no sooner than six weeks after fern emergence.<br>• NIS can be used east of the Rockies to enhance weed control, do not use NIS west of the Rockies.<br>• Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **FALLOW GROUND** | 2/3 - 1 1/3 | Applications of SANDEA to fallow ground. |
| | • SANDEA may be applied up to 2 applications with a total application not to exceed 2 2/3 oz of product by weight (0.125 lb active ingredient) per acre per use season.<br>• Refer to the "WEEDS CONTROLLED" section of this label for weed control recommendations. Also refer to the "ROTATIONAL CROP INFORMATION" section of this label for applicable rotational crop restriction.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **OKRA (30)** | 1/2 - 1 | **Direct-seeded and Transplant:**<br>• **Row Middle/Furrow Applications/Shielded Spray** - Apply SANDEA between rows of direct-seeded or transplanted okra, while avoiding contact of the herbicide with the planted crop. If plastic is used on the planted row, adjust equipment to keep the application off the plastic. Reduce rate and spray volume in proportion to area actually sprayed. |
| | • Do not apply more than 2 oz SANDEA per acre per crop-cycle, not to exceed 2 oz per acre per 12 month period.<br>• Consult "Use Precautions" and "For Optimum Results" sections for important usage information. | |
| **17 PASTURE, RANGELAND & CRP FORAGE GRASSES/HAY (37)** | 2/3 – 1 1/3 | **Established Fields**<br>**Postemergence Broadcast –** Apply SANDEA as a broadcast application to established Pasture & Rangeland. Apply uniformly with ground equipment in a minimum of 10 gallons of water per acre. Use a water volume that will provide uniform coverage of plants. It is recommended to make an application as soon as possible after removal of hay or before weeds exceed label height restriction. Wait for at least 48 hours after application before irrigation.<br><br>**Postemergence Spot Treatment –** Apply SANDEA as a spot treatment application to only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants.<br>**Postemergence followed by Postemergence -** To maximize control of nutsedge, it may be necessary to use a second postemergence spot application to those areas where the nutsedge has emerged or re-grown. For these situations, use a spot treatment method treating only those areas of emerged nutsedge. Application rate should not exceed 3/4 oz product per treated acre in these areas. Use a water volume that will allow for good coverage of the plants. This use pattern will result in greater potential of growth and yield reduction.<br><br>**TANK MIXTURES**<br>Refer to "MIXING INSTRUCTIONS," and "USE RATE GUIDES" sections of this label for detailed information on SANDEA application.<br><br>Refer to the specific product labels and observe all precautions, mixing and application instructions for all products used in tank mixtures. Be sure to follow the specifications listed on the most restrictive label when planning and making applications.<br><br>Tank mixtures for additional broadleaf weed control, including but not limited to 2,4-D, dicamba and, Grazon® can be added.<br><br>Labeled insecticides, including **Confirm®,** and labeled fungicide products can be tank mixed with SANDEA. |

<table>
<tr><th>CROP</th><th>OZ/ACRE</th><th>COMMENTS</th></tr>
<tr><td>17<br>PASTURE, RANGELAND & CRP FORAGE GRASSES/HAY (37)</td><td colspan="2">
<ul>
<li>Do not apply more than 1 1/3 oz of SANDEA per acre per 12 month period.</li>
<li>0 Day pre grazing interval for lactating and non-lactating animals.</li>
<li>Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</li>
<li>Listed day intervals following an application of SANDEA.</li>
</ul>
<table>
<tr><th rowspan="2">Crop</th><th colspan="3">Lactating and Non-lactating Animals</th></tr>
<tr><th>Pre-Grazing Interval (PGI)</th><th>Pre-Harvest Interval (PHI)</th><th>Pre-Slaughter Interval (PSI)</th></tr>
<tr><td>Pasture, Rangeland, CRP and Forage Grasses/Hay</td><td>0</td><td>37</td><td>0</td></tr>
</table>
</td></tr>
<tr><td rowspan="2">RHUBARB (60)</td><td>1/2 - 1</td><td>Apply uniformly with ground equipment in a minimum of 15 gallons of water per acre.<br><br>Apply SANDEA as a single broadcast application to <u>dormant</u> rhubarb. The timing of the application should be as late as possible, or just prior to the breaking of rhubarb dormancy. Application of SANDEA may cause significant crop stunting. It is recommended that the user begin with a the lower rate to determine potential sensitivity to its use along with speed and degree of recovery.<br><br>Use a NIS if labeled weeds are emerged.</td></tr>
<tr><td colspan="2">
<ul>
<li>SANDEA may not control ALS resistant weeds.</li>
<li>Do not apply more than 1 oz of SANDEA per acre per year.</li>
<li>Consult “Use Precautions” and “For Optimum Results” sections for important usage information.</li>
</ul>
</td></tr>
<tr><td>TURFGRASS SOD AND SEED FARMS</td><td>2/3 - 1 1/3</td><td>SANDEA is a selective herbicide for postemergence control of sedges such as purple and yellow nutsedge in sod or turf seed farms. This product will not injure nearby established ornamentals, trees, and shrubs when used according to label directions.<br><br>For postemergence control of purple or yellow nutsedge found in established turfgrass, apply 2/3 - 1 1/3 oz by weight of this product per acre (0.031 - 0.062 lbs. active ingredient per acre) after nutsedge has reached the 3 - 5 leaf stage of growth. Use the lower rate in light infestations and the higher rate in heavy infestations.<br><br>A second treatment may be required 6 - 10 weeks after the initial treatment. As a sequential treatment, when new purple or yellow nutsedge plants have reached the 3 - 5 leaf stage of growth, apply 2/3 - 1 1/3 oz by weight of this product per acre (0.031 - 0.062 lbs. active ingredient per acre). Use the lower rate in light infestations and the higher rate in heavy infestations. No more than 2 applications can be made with the total use rate not exceeding 2 2/3 oz of product (0.125 lb active ingredient) per acre per use season.<br><br>Use 0.25 - 0.5% NIS concentration (1 - 2 quarts per 100 gallons of spray solution) for broadcast applications. For high volume applications, DO NOT exceed 1 quart of surfactant per acre. Use only NIS which contain at least 80% active material.<br><br>DO NOT exceed the recommended amount of surfactant due to the potential for turf injury at higher rates. Refer to the surfactant label and observe all precautions, mixing and application instructions.<br><br>When applied as directed under the conditions described, the following established turfgrasses are tolerant to application of this product:
<table>
<tr><th colspan="3">Established Cool-Season Grasses</th></tr>
<tr><td>Bentgrass, creeping<br>(Agrostis stolonifera)</td><td>Fescue, fine<br>(Festuca rubra )</td><td>Ryegrass, perennial<br>(Lolium perenne)</td></tr>
<tr><td>Blue Grass, Kentucky<br>(Poa pratensis)</td><td>Fescue, tall<br>(Festuca arundinacea)</td><td></td></tr>
<tr><th colspan="3">Established Warm-Season Grasses</th></tr>
<tr><td>Bahiagrass<br>(Paspalum notatum)</td><td>Centipedegrass<br>(Eremochloa ophiuroides)</td><td>Kikuyugrass<br>(Pennisetum clandestinum)</td></tr>
<tr><td>Bermudagrass<br>(Cynodun dactylon)</td><td>Seashore paspalum<br>(Paspalum vaginatum)</td><td>Zoysiagrass<br>(Zoysia japonica)</td></tr>
<tr><td>Buffalograss<br>(Buchloe dactyloides)</td><td>St. Augustinegrass<br>(Stenotaphrum secundatum)</td><td></td></tr>
</table>
</td></tr>
</table>

| CROP | OZ/ACRE | COMMENTS |
|---|---|---|
| **TURFGRASS SOD AND SEED FARMS** (continued) | 2/3 - 1 1/3 | **Fallow Treatments in Turfgrass Seed and Sod Production Areas**<br>This product may be used on fallow areas prior to establishing turfgrass plants. Allow 4 weeks between application and seeding or sodding of turfgrass.<br><br>**Tank Mixtures for Turfgrass Renovation**<br>**SANDEA plus GLYPHOSATE AGRICULTURAL HERBICIDES plus NIS**<br>For **non-selective** control of all vegetation prior to turfgrass renovation, SANDEA may be applied at 2/3 oz by weight per acre in combination with glyphosate agricultural herbicides for pre-plant burndown of emerged annual grasses, broadleaf weeds and nutsedge.<br><br>**Refer to the glyphosate agricultural herbicide label for use instructions, weeds controlled, and application restrictions.** |
| | • For optimum results, do not mow turf for 2 days before or 2 days after application.<br>• This product is effective if no rainfall occurs within 3 hours, but best results are obtained with no rainfall or irrigation for at least 8 hours. | |
| | • This product may be used on seeded, sodded, or sprigged turfgrass that is well established. Allow the turf to develop a good root system and uniform stand before application.<br>• **Avoid application of SANDEA when turfgrass or nutsedge is under stress since turf injury and poor nutsedge control may result.**<br>• Do not apply as an over the top spray to desirable shrubs or trees. | |

**ROTATIONAL CROP INFORMATION**

Gowan Company recommends the following recropping intervals for crop safety. Planting prior to the intervals shown below may result in crop injury when using SANDEA. Rotation intervals below may need to be extended if drought or cool conditions prevail. Rotation intervals may need to be extended on drip irrigated crops in Arizona and California. Gowan Company recommends that the end user test this product in order to determine its suitability for such intended use. It may be appropriate to use shorter Intervals in areas where local experience has demonstrated safety. In the event of crop failure, labeled crops may be planted back into the treated area at the user's risk for potential phytotoxicity to the subsequent crop. When using SANDEA in tank mixes, refer to the individual product labels being tank mixed. To determine rotational crop restrictions follow the longest rotational limitation of the product being tank mixed.

**TIME INTERVAL BEFORE PLANTING**

| CROP | MONTHS | EXCEPTIONS |
|---|---|---|
| **CROPS NOT SPECIFICALLY LISTED** | 36 | |
| Alfalfa | 9 | |
| Barley (winter) | 2 | |
| Beans, Dry | 0 | |
| Beans, Snap | 9 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Broccoli | 18 | 3 months for muck soils in FL |
| Cabbage | 15 | 3 months for muck soils in FL |
| Canola | 15 | |
| Carrot | 15 | |
| Cauliflower | 18 | 3 months for muck soils in FL |
| Cereal crops, Spring | 2 | |
| Clovers | 9 | |
| Collards | 18 | |
| Corn, IR/IMR Field | 0 | |
| Corn, Normal Field and IT Field | 1 | |
| Corn, Seed | 2 | |
| Corn, Sweet and Pop | 3 | |
| Cotton | 4 | |
| Cucumbers | 9 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Eggplant | 12 | 4 months for FL Transplants |
| Forage Grasses | 2 | |
| Lettuce crops | 18 | 3 months for muck soils in FL |
| Melons | 9 | 2 months in the southeast and TX |
| Mint | 15 | |
| Oats | 2 | |
| Onions and Leeks | 18 | |
| Peanuts | 6 | |
| Peas | 9 | |
| Peas, Field | 9 | |
| Peppers | 10 | 4 months FL Transplants and 3 months in TX |
| Potatoes | 9 | |
| Pumpkins | 9 | 2 months in the southeast |
| Proso Millet | 2 | |
| Radish | 12 | 3 months for muck soils in FL |

| | | |
|---|---|---|
| Rice | 0 | |
| Rye (winter) | 2 | |
| Sorghums | 2 | |
| Soybeans | 9 | Where soil pH is less than 7.5 the interval is 5 months |
| Spinach | 24 | 3 months for muck soils in FL |
| Squash | 9 | 2 months in the southeast |
| Strawberries | 36 | 6 months for annual FL Transplants |
| Sugarbeet (Michigan only) | 21 | |
| Sugarbeet (ND, MN, Red River Valley) | 36 | |
| Sugarbeet and Red Beet | 24 | Where rainfall is sparse or irrigation is required, the time interval is 36 months. |
| Sugarcane | 0 | |
| Sunflowers | 18 | |
| Tomato | 8 | 2 months in the northeast, midwest, and southeast, 3 months in TX |
| Wheat (winter) | 2 | |

**Southeast**: LA, MS, AL, FL, GA, NC, SC, TN, Puerto Rico

**Northeast & Midwest**: PA, DE, MA, MD, NY, ME, NJ, CT, RI, VA, NH, VT, WV, MI, WI, MN, IA, IL, IN, OH, MO, KY, ND, SD, NE

## STORAGE AND DISPOSAL

**DO NOT** contaminate water, food, feed or seed by storage or disposal.
**PESTICIDE STORAGE:** Store under cool, dry conditions (below 120° F). Do not store under moist conditions.
**PESTICIDE DISPOSAL:** Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill for pesticide disposal or in accordance with applicable Federal, state or local procedures.
**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. 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.
**DISPOSAL AUTHORITIES:** If none of the foregoing procedures is permitted by state and local authorities, then contact your State Pesticide or Environmental Control Agency, or your local Hazardous Waste Disposal office, or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

**FOR 24-HOUR EMERGENCY ASSISTANCE (SPILL, LEAK OR FIRE), CALL CHEMTREC® (800) 424-9300.**
For other product information, contact Gowan Company or see Material Safety Data Sheet.

**NOTICE OF CONDITIONS OF SALE AND WARRANTY AND LIABILTY LIMITATIONS**

Important: Read the entire Directions for Use and Notice of Conditions of Sale and Warranty and Liability Limitations before using this product. If terms are not acceptable return the unopened container for a full refund.

Our directions for use of this product are based on tests believed to be reliable. However, it is impossible to eliminate all risk associated with the use of this product. Crop injury, inadequate performance, or other unintended consequences may result due to soil or weather conditions, off target movement, presence of other materials, method of use or application, and other factors, all of which are beyond the control of Gowan Company. All such risks shall be assumed by the Buyer and User.

Gowan Company warrants that this product conforms to the specifications on the label when used in strict conformance with Directions for Use, subject to the above stated risk limitations. TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, GOWAN COMPANY MAKES NO OTHER EXPRESS OR IMPLIED WARRANTY OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY.

TO THE EXTENT CONSISTENT WITH APPLICABLE LAW, GOWAN COMPANY'S EXCLUSIVE LIABILITY FOR ANY AND ALL LOSSES, INJURIES OR DAMAGES RESULTING FROM THE USE OR HANDLING OF THIS PRODUCT WHETHER IN CONTRACT, WARRANTY, TORT, NEGLIGENCE, OR ANY OTHER LEGAL THEORY IS STRICTLY LIMITED TO THE PURCHASE PRICE PAID OR REPLACEMENT OF PRODUCT, AT GOWAN COMPANY'S SOLE DISCRETION.

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(01-R0715)

**Safety Data Sheet**
**acc. to OSHA**

Printing date 06/30/2015 Reviewed on 06/30/2015

* 
## 1 Identification

· **Product identifier**

· **Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**
· **CAS Number:** Active Ingredient: Halosulfuron-Methyl (75%), CAS:100784-20-1
· **Relevant identified uses of the substance or mixture and uses advised against**
· **Sector of Use** Agriculture use
· **Application of the substance / the mixture** Agricultural herbicide

· **Details of the supplier of the safety data sheet**
· **Manufacturer/Supplier:**
Gowan Company
P.O. Box 5569
Yuma, Arizona 85366-5569
(928) 783-8844

· **Information department:** sds@gowanco.com
· **Emergency telephone number:**
Chemtrec® Emergency Telephone 24 - Hours: (Spills, leak or fire) Inside U.S. & Canada: (800) 424-9300
Outside the U.S. & Canada: +011 (703) 527-3887

For medical emergency (Prosar® ): (888) 478-0798

* 
## 2 Hazard(s) identification

· **Classification of the substance or mixture**

GHS07

Acute Tox. 4 H302 Harmful if swallowed.

· **Label elements**
· **GHS label elements**
The product is classified and labeled according to the Globally Harmonized System (GHS).
· **Hazard pictograms**

GHS07

· **Signal word:** Warning
· **Hazard statements**
Harmful if swallowed.
· **Precautionary statements**
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
Dispose of contents/container in accordance with local/regional/national/international regulations.
· **Hazard description:** Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.

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# Safety Data Sheet
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**Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**

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· **Classification system:**
· **NFPA ratings (scale 0 - 4)**


Health = 1
Fire = 0
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate
1 Slight Hazard
0 Minimal Hazard

· **HMIS-ratings (scale 0 - 4)**


Health = 1
Fire = 0
Reactivity = 0

HAZARD INDEX:
4 Severe Hazard
3 Serious Hazard
2 Moderate Hazard
1 Slight Hazard
0 Minimal Hazard

· **Other hazards**
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable in US.
· **vPvB:** Not applicable in US.

## 3 Composition/information on ingredients

· **Chemical characterization: Mixtures**
· **Description:** Only the identities of the active ingredient(s) and any hazardous inert ingredients are listed.

· **Dangerous components:**

| | | |
|---|---|---|
| 100784-20-1 | Halosulfuron present as methyl ester<br>Aquatic Acute 1, H400; Aquatic Chronic 1, H410 | 75.0% |

* 
## 4 First-aid measures

· **Description of first aid measures**
· **General information:**
Have the product container or label with you when calling a poison control center or doctor, or going for treatment.
You may also contact 1-888-478-0798 for emergency medical treatment information.
· **After eye contact:**
• 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 eyes.
• Call a poison control center or doctor for treatment advice.
· **After swallowing:**
• 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.

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**Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**

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• Do not give anything by mouth to an unconscious person.
· **Information for doctor:**
· **Most important symptoms and effects, both acute and delayed** No further relevant information available.
· **Indication of any immediate medical attention and special treatment needed**
No further relevant information available.

## 5 Fire-fighting measures

· **Extinguishing media**
· **Suitable extinguishing agents:**
CO2, extinguishing powder or water spray. Fight larger fires with water spray or alcohol resistant foam.
· **Special hazards arising from the substance or mixture** No further relevant information available.
· **Advice for firefighters**
Firefighters and others that may be exposed to vapors, mists, dusts, or products of combustion should wear full protective clothing and self-contained breathing apparatus. Equipment should be thoroughly cleaned after use.
· **Protective equipment:** Wear self-contained respiratory protective device.

* 
## 6 Accidental release measures

· **Personal precautions, protective equipment and emergency procedures**
Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.
· **Environmental precautions:**
This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark.
· **Methods and material for containment and cleaning up:**
Absorb remaining material or small spills with an inert material and then place in a chemical waste container. Flush residual spill area with water. Refer to Section 13 for disposal information and Section 15 for reportable quantity information.
· **Reference to other sections**
See Section 7 for information on safe handling.
See Section 8 for information on personal protection equipment.
See Section 13 for disposal information.

* 
## 7 Handling and storage

· **Handling:**
· **Precautions for safe handling**
Avoid contact with eyes or clothing. Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet. Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing. Do not apply directly to water, 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 washwaters.
· **Information about protection against explosions and fires:** No special measures required.

· **Conditions for safe storage, including any incompatibilities**
· **Storage:**
· **Requirements to be met by storerooms and receptacles:**
Do not contaminate water, foodstuffs, feed or seed by storage or disposal. Store under cool, dry conditions (below 120°F). Do not store under moist conditions.
· **Information about storage in one common storage facility:** Store away from foodstuffs.
· **Further information about storage conditions:** None.

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**Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**

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· **Specific end use(s)** No further relevant information available.

* 
## 8 Exposure controls/personal protection

· **Additional information about design of technical systems:** No further data; see item 7.

· **Control parameters**
· **Components with limit values that require monitoring at the workplace:**
The product does not contain any relevant quantities of materials with critical values that have to be monitored at the workplace.
· **Additional information:**
Causes moderate eye irritation. Harmful if swallowed. Avoid contact with eyes or clothing.

· **Exposure controls**
· **Personal protective equipment:**
· **General protective and hygienic measures:**
Users should:
• Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
• Remove clothing immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
· **Breathing equipment:** Not required.
· **Protection of hands:**

Protective gloves

· **Material of gloves** Chemical-resistant made of any waterproof material
· **Penetration time of glove material**
The exact break through time has to be found out by the manufacturer of the protective gloves and has to be observed.
· **Body protection:**
Applicators and other handlers must wear:
• Long-sleeved shirt and long pants
• Shoes plus socks

* 
## 9 Physical and chemical properties

| | |
|---|---|
| · **Information on basic physical and chemical properties** | |
| · **General Information** | |
| · **Appearance:** | |
| · **Form:** | Granulate |
| · **Color:** | Beige |
| · **Odor:** | Slightly Vanilla |
| · **Odour threshold:** | Not determined. |
| · **pH-value at 20 °C (68 °F):** | 6.6 |
| · **Change in condition** | |
| · **Melting point/Melting range:** | Undetermined. |
| · **Boiling point/Boiling range:** | Undetermined. |
| · **Flash point:** | Not applicable. |

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**Trade name: Sandea® Herbicide**
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| | |
|---|---|
| · **Flammability (solid, gaseous):** | Not determined. |
| · **Ignition temperature:** | |
| · **Decomposition temperature:** | Not determined. |
| · **Auto igniting:** | Product is not self-igniting. |
| · **Danger of explosion:** | Product does not present an explosion hazard. |
| · **Explosion limits:** | |
| · **Lower:** | Not determined. |
| · **Upper:** | Not determined. |
| · **Vapor pressure:** | Not applicable. |
| · **Density at 20 °C (68 °F):** | 0.656 g/cm³ (5.474 lbs/gal) |
| · **Relative density** | Not determined. |
| · **Vapour density** | Not applicable. |
| · **Evaporation rate** | Not applicable. |
| · **Solubility in / Miscibility with** | |
| · **Water:** | Dispersible. |
| · **Partition coefficient (n-octanol/water):** | Not determined. |
| · **Viscosity:** | |
| · **Dynamic:** | Not applicable. |
| · **Kinematic:** | Not applicable. |
| · **Other information** | No further relevant information available. |

## 10 Stability and reactivity

· **Reactivity**
· **Chemical stability**
This product should be stable for at least two years under normal conditions of warehouse storage. Store in a cool, well-ventilated place away from foodstuffs, reducing agents and acids.
· **Thermal decomposition / conditions to be avoided:** No decomposition if used according to specifications.
· **Possibility of hazardous reactions** No dangerous reactions known.
· **Conditions to avoid** Store under cool, dry conditions (below 120°F). Do not store under moist conditons.
· **Incompatible materials:** Reducing agents and acids
· **Hazardous decomposition products:** No dangerous decomposition products known.

* 
## 11 Toxicological information

· **Information on toxicological effects**
· **Acute toxicity:**

· **LD/LC50 values that are relevant for classification:**

| | | |
|---|---|---|
| Oral | LD50 | 1287 mg/kg (rat) |
| Dermal | LD50 | >5000 mg/kg (rat) |
| Inhalative | LC50/4 h | >5.7 mg/l (rat) |

· **Primary irritant effect:**
· **on the skin:** Slightly irritating
· **on the eye:** Moderately Irritating

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· **Sensitization:** No sensitizing effects known.
· **Additional toxicological information:**
The product is not subject to classification according to internally approved calculation methods for preparations:
When used and handled according to specifications, the product does not have any harmful effects according to our experience and the information provided to us.

· **Carcinogenic categories**

| · IARC (International Agency for Research on Cancer) |
|---|
| None of the ingredients are listed. |

| · NTP (National Toxicology Program) |
|---|
| None of the ingredients are listed. |

| · OSHA-Ca (Occupational Safety & Health Administration) |
|---|
| None of the ingredients are listed. |

## 12 Ecological information

· **Toxicity**
This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters. Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.
· **Aquatic toxicity:** No further relevant information available.
· **Persistence and degradability** No further relevant information available.
· **Behavior in environmental systems:**
· **Bioaccumulative potential** No further relevant information available.
· **Mobility in soil** No further relevant information available.
· **Other information:**
Ecotoxicity data shown is for the active ingredient, halosulfuron-methyl.
48-hr EC50 Daphnia magna: >107 mg/L; practically nontoxic.
96-hr LC50 Bluegill sunfish: >118 mg/L; practically nontoxic.
96-hr LC50 Rainbow trout: >131 mg/L; practically nontoxic.
5-day EC50 Algae (Selenastrum capricornutum): 0.0041/L; very highly toxic.
· **Ecotoxical effects:**
· **Other information:**
This product is toxic to non-target vascular plants. Do not apply directly to water, to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when cleaning equipment or disposing of equipment washwaters.

Halosulfuron-methyl is known to leach through soil into ground water under certain conditions as a result of label use. This chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.
· **Additional ecological information:**
· **General notes:**
Water hazard class 2 (Self-assessment): hazardous for water
Do not allow product to reach ground water, water course or sewage system.
Danger to drinking water if even small quantities leak into the ground.
· **Results of PBT and vPvB assessment**
· **PBT:** Not applicable.
· **vPvB:** Not applicable.

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**Trade name: Sandea® Herbicide**
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· **Other adverse effects** No further relevant information available.

## 13 Disposal considerations

· **Waste treatment methods**
· **Recommendation:**
Wastes resulting from the use of this product that cannot be used or chemically reprocessed should be disposed of in a landfill for pesticide disposal or in accordance with applicable Federal, state or local procedures.

· **Uncleaned packagings:**
· **Recommendation:**
Nonrefillable container. Do not reuse or refill this container. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 PSI for at least 30 seconds. 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.

* 

## 14 Transport information

| | |
|---|---|
| · **UN-Number** | |
| · **DOT** | Not Regulated |
| · **ADR, IMDG, IATA** | UN3077 |
| · **UN proper shipping name** | |
| · **ADR** | 3077 Environmentally hazardous substances, solid, n.o.s. (Halosulfuron-Methyl) |
| · **IMDG** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halosulfuron-Methyl), MARINE POLLUTANT |
| · **IATA** | ENVIRONMENTALLY HAZARDOUS SUBSTANCE, SOLID, N.O.S. (Halosulfuron-Methyl) |
| · **Transport hazard class(es)** | |
| · **ADR, IMDG, IATA** |  |
| · **Class** | 9 Miscellaneous dangerous substances and articles |
| · **Label** | 9 |
| · **Packing group** | |
| · **ADR, IMDG, IATA** | III |
| · **Environmental hazards:** | Product contains environmentally hazardous substances: Halosulfuron present as methyl ester |
| · **Marine pollutant:** | Yes<br>Symbol (fish and tree) |
| · **Special marking (ADR):** | Symbol (fish and tree) |
| · **Special marking (IATA):** | Symbol (fish and tree) |
| · **Special precautions for user** | Warning: Miscellaneous dangerous substances and articles |

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# Safety Data Sheet
acc. to OSHA

Printing date 06/30/2015 Reviewed on 06/30/2015

**Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**

(Contd. of page 7)

| | |
|---|---|
| · **Danger code (Kemler):** | 90 |
| · **EMS Number:** | F-A,S-F |
| · **Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code** | Not applicable |
| · **UN "Model Regulation":** | US DOT:<br>Not regulated<br><br>All OTHERS:<br>UN3077, Environmentally hazardous substances, solid, n.o.s. (Halosulfuron-Methyl), 9, III |

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## 15 Regulatory information

· **Safety, health and environmental regulations/legislation specific for the substance or mixture**
EPA /FIFRA Information:
This chemical is a pesticide product registered by the Environmental Protection Agency and is subject to certain labeling requirements under federal pesticide law. These requirements differ from the classification criteria and hazard information required for safety data sheets, and for workplace labels of non-pesticide chemicals.

· **SARA Title III**

· **Section 355 (extremely hazardous substances):**
None of the ingredients are listed.

· **Section 313 (Specific toxic chemical listings):**
None of the ingredients are listed.

· **TSCA (Toxic Substances Control Act):**
None of the ingredients are listed.

· **Proposition 65**

· **Chemicals known to cause cancer:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for females:**
None of the ingredients are listed.

· **Chemicals known to cause reproductive toxicity for males:**
None of the ingredients are listed.

· **Chemicals known to cause developmental toxicity:**
None of the ingredients are listed.

· **Carcinogenicity categories**

· **EPA (Environmental Protection Agency)**
None of the ingredients are listed.

· **TLV (Threshold Limit Value established by ACGIH)**
None of the ingredients are listed.

· **NIOSH-Ca (National Institute for Occupational Safety and Health)**
None of the ingredients are listed.

· **GHS label elements**
Not applicable
The product is classified and labeled according to the Globally Harmonized System (GHS).

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# Safety Data Sheet
## acc. to OSHA

Printing date 06/30/2015 Reviewed on 06/30/2015

**Trade name: Sandea® Herbicide**
**EPA Registration No.: 81880-18-10163**

(Contd. of page 8)

· **Hazard pictograms:**

Not applicable

· **Signal word:**

(US EPA) CAUTION

· **Hazard statements**
Causes moderate eye irritation.
Harmful if swallowed.
Avoid contact with eyes or clothing.
Harmful if swallowed.

· **Precautionary statements**
Wash thoroughly after handling.
Do not eat, drink or smoke when using this product.
If swallowed: Call a poison center/doctor if you feel unwell.
Rinse mouth.
Dispose of contents/container in accordance with local/regional/national/international regulations.

· **Chemical safety assessment:** A Chemical Safety Assessment has not been carried out.

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## 16 Other information

This information is based on our present knowledge. However, this shall not constitute a guarantee for any specific product features and shall not establish a legally valid contractual relationship.

· **Department issuing SDS:** Supply Chain
· **Contact:** sds@gowanco.com
· **Date of preparation / last revision** 06/30/2015 / 6
· **Abbreviations and acronyms:**
ADR: Accord européen sur le transport des marchandises dangereuses par Route (European Agreement concerning the International Carriage of Dangerous Goods by Road)
IMDG: International Maritime Code for Dangerous Goods
DOT: US Department of Transportation
IATA: International Air Transport Association
ACGIH: American Conference of Governmental Industrial Hygienists
EINECS: European Inventory of Existing Commercial Chemical Substances
ELINCS: European List of Notified Chemical Substances
CAS: Chemical Abstracts Service (division of the American Chemical Society)
NFPA: National Fire Protection Association (USA)
HMIS: Hazardous Materials Identification System (USA)
LC50: Lethal concentration, 50 percent
LD50: Lethal dose, 50 percent
Acute Tox. 4: Acute toxicity, Hazard Category 4
Aquatic Acute 1: Hazardous to the aquatic environment - AcuteHazard, Category 1
Aquatic Chronic 1: Hazardous to the aquatic environment - Chronic Hazard, Category 1
· **Sources**
Halosulfuron-methyl is manufactured by Nissan Chemical Industries, Ltd.
Sandea® is a registered trademark of Gowan Company, L.L.C.
· *** Data compared to the previous version altered.**