

**GROUP 8 HERBICIDE**

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

# AVADEX<sup>®</sup>

## MICROACTIV<sup>™</sup>

### HERBICIDE

Granular selective herbicide for fall or spring application to control wild oats in winter wheat, spring and durum wheat, barley, triticale, peas (green, field dried, chickpeas, garbanzo beans), lentils, sugar beet, and established Bermuda grass (grown for seed or hay); and for fall application to suppress *Bromus* species (*B. tectorum*, *B. secalinus* and *B. japonicus*) in winter wheat and in winter barley.

For use in California\*, Colorado, Idaho, Kansas, Minnesota, Montana, Nebraska, Nevada, North Dakota, Oregon, South Dakota, Utah, Washington, and Wyoming.

\* In California: For use only on Bermuda grass.

<b>ACTIVE INGREDIENT:</b>	<b>% By Wt.</b>
Triallate, S-(2,3,3-trichloroallyl)-diisopropylthiocarbamate .....	10.0%
<b>OTHER INGREDIENTS:</b> .....	<u>90.0%</u>
	<b>TOTAL 100.0%</b>

Attention, contains the allergen soy.

## KEEP OUT OF REACH OF CHILDREN

# CAUTION

Read the entire label before using this product. Use only according to label instructions. Read "NOTICE OF CONDITIONS OF SALE AND WARRANTY LIABILITY LIMITATIONS" before buying or using. If terms are not acceptable, return at once unopened.

THIS IS AN END-USE PRODUCT. GOWAN COMPANY DOES NOT INTEND AND HAS NOT REGISTERED IT FOR REFORMULATION. SEE INDIVIDUAL CONTAINER LABEL FOR REPACKAGING LIMITATIONS.

FIRST AID	
<b>IF SWALLOWED</b>	<ul style="list-style-type: none"> <li>Call a poison control center or doctor immediately for treatment advice.</li> <li>Have person sip a glass of water if able to swallow.</li> <li>Do not induce vomiting unless told to do so by a poison control center or doctor. Do not give anything by mouth to an unconscious person.</li> </ul>
<b>IF ON SKIN OR CLOTHING</b>	<ul style="list-style-type: none"> <li>Take off contaminated clothing.</li> <li>Rinse skin immediately with plenty of water for 15-20 minutes.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>Hold eye open and rinse slowly and gently with water for 15-20 minutes.</li> <li>Remove contact lenses, if present, after the first 5 minutes, then continue rinsing.</li> <li>Call a poison control center or doctor for treatment advice.</li> </ul>
HOT LINE NUMBER	
When seeking medical attention, take the container label if at all possible. If not, take information which identifies the product, that is, the product names and registration numbers. You may also contact 1-888-478-0798 for emergency medical treatment information.	

**NET CONTENTS:** \_\_\_\_\_



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

**CAUTION**

Causes Moderate Eye Irritation. Avoid contact with skin, eyes or clothing. Wash thoroughly with soap and water after handling. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Refer to country specific label booklet for additional precautions.

**PERSONAL PROTECTIVE EQUIPMENT (PPE)**

**Loaders, applicators\*, flaggers\* and other handlers must wear:** Long-sleeved shirt and long pants, shoes plus socks.

A NIOSH approved particulate filtering respirator equipped with N, R, or P class filter media. The respirator should have a NIOSH approval number prefix TC-84A.

\* See engineering controls below for additional requirements.

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

**USER SAFETY RECOMMENDATIONS**

**Users should:**

- Wash hands before eating, drinking, chewing gum, using tobacco, or using the toilet.
- Remove clothing/PPE immediately if pesticide gets inside. Then wash thoroughly and put on clean clothing.
- Remove PPE immediately after handling this product. Wash the outside of gloves before removing. As soon as possible, wash thoroughly and change into clean clothing.

**ENGINEERING CONTROLS**

Pilots must use an enclosed cockpit that meets the requirements listed in the Worker Protection Standard (WPS) for Agricultural Pesticides [40 CFR 170.240(d)(6)].

Flaggers must be in an enclosed cab that meets the definition in the Worker Protection Standard for Agricultural Pesticides for dermal protection and in addition to wearing the required PPE specified above, have immediately available for use in case they must leave the cab: coveralls, chemical-resistant gloves and chemical-resistant footwear, such as nitrile rubber, neoprene, neoprene rubber or polyethylene.

**ENVIRONMENTAL HAZARDS**

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 or rinsate. Refer to country specific label booklet for additional environmental hazard information.

**Ground Water Advisory**

Triallate has properties and characteristics associated with chemicals detected in ground water. The chemical may leach into ground water if used in areas where soils are permeable, particularly where the water table is shallow.

**Surface Water Advisory**

This product has a high potential for runoff for several months or more after application. Poorly draining soils and soils with shallow water tables are more prone to produce runoff that contains this product. A level, well maintained vegetative buffer strip between areas to which this product is applied and surface water features such as ponds, streams, and springs, will reduce the potential for contamination of water from rainfall-runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours.

**DIRECTIONS FOR USE**

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

This product can only be used in accordance with the Directions for Use on this label or in separately published Gowan Company Supplemental Labeling.

Do not allow this product to drift. 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 requirement 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 others to enter the treated area (except those persons involved in the incorporation) until the incorporation is complete following application.

Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours. Exception: if the product is soil-injected or soil-incorporated, the Worker Protection Standard, under certain circumstances, allows workers to enter the treated area if there will be no contact with anything that has been treated.

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
- Shoes plus socks
- Chemical-resistant gloves, such as nitrile rubber, neoprene rubber or polyethylene.

For more options, follow the instructions for category A (dry and water-based formulations) on an EPA chemical-resistant category selection chart.

### USE INFORMATION

This herbicide may be used for wild oat control in barley, peas (green, field dried, chickpeas, garbanzo beans), lentils, durum, spring and winter wheat, triticale, established bermuda grass (grown for seed or hay), and sugar beet only, and suppresses downy brome (*Bromus tectorum*), cheat (*Bromus secalinus*) and Japanese brome (*Bromus japonicus*) in winter wheat and winter barley. Other crops should not be treated with this product because injury may occur. For barley, durum, spring wheat, triticale and sugar beet, this product may be applied on the soil either in the fall or in the spring before wild oats germinate. For lentils and peas, this product may only be applied in the spring before wild oats germinate. For winter wheat, this product may only be applied in the fall before wild oats germinate.

Application equipment must be properly calibrated: application of too much herbicide may injure the crop; application of too little may result in poor wild oat control. Specified rates must be followed in order to:

1. Avoid crop injury
2. Avoid crop residue at harvest
3. Control wild oats
4. Suppress *Bromus* species

### PRECAUTIONS

Seeding may be done either before or after application, depending upon the crop that is to be sown. If seeding is delayed, shallow reworking of the treated area before seeding will not destroy the effects of the chemical.

When using this herbicide, a strip should be left untreated for proof of results. Weed control may be evaluated also by removing a surface inch or two inches of the soil at the time of germination to inspect the number of wild oats that were killed before emergence.

Wild oats are usually killed before emergence, but occasionally, and particularly under dry conditions, plants may reach the 3-4 leaf stage before they die.

Under conditions of prolonged high temperature at the time of germination, or extreme drought in the spring, this product may not maintain the usual high standard of wild oat control.

### RESTRICTIONS

Application to a field which is wet, lumpy, rough or ridged will result in reduced wild oat control and promote crop thinning. Incorporation must be completed within 48 hours after application and before germination of the wild oats. If weeds, including wild oats, have emerged prior to treating and/or planting, they must be controlled. All deep tillage by cultivators or double disc implements must be completed prior to application. Do not plow following application of this herbicide.

### ATTENTION

DELAYED EMERGENCE, STAND REDUCTION, STUNTING AND YIELD LOSS MAY RESULT DUE TO COLD OR WET CONDITIONS, IRRIGATION DURING GERMINATION OR EMERGENCE, DEEP PLANTING, SOIL CRUSTING, DISEASE, INSECTS, OR SELECTION OF A VARIETY GENETICALLY SUSCEPTIBLE TO STRESS. THESE ARE CONDITIONS BEYOND THE CONTROL OF GOWAN COMPANY, AND THE GROWER SHOULD CONSULT THE STATE UNIVERSITY EXTENSION SPECIALIST OR SEED PRODUCER OR SUPPLIER FOR LOCAL VARIETAL INFORMATION AND TILLAGE AND PLANTING PRACTICES AND DATES.

LATE PLANTING OF WINTER WHEAT OR PLANTING WINTER WHEAT UNDER UNFAVORABLE ENVIRONMENTAL CONDITIONS THAT RESULT IN FAILURE OF THE WHEAT TO EMERGE IN THE FALL MAY RESULT IN STAND REDUCTION, STUNTING AND YIELD LOSS.

Domestic oats should not be seeded where this product was used the previous year.

Do not rotate to crops other than winter wheat, spring and durum wheat, triticale, barley, peas (green, field dried, chickpeas, and garbanzo beans), lentils, and sugar beets for 12 months after an Avadex® MinTill Herbicide application.

Do not graze livestock on treated crops.

When this product is used on clay knobs, crop thinning may occur due to uneven seeding depth and poor crop establishment conditions. Thinning is usually offset by increased tillering and by the reduction of wild oat competition.

IN THE STATE OF MONTANA, do not use this product on fields to be seeded to hard red spring wheat with press drills, if the field is or will be irrigated in the current growing season.

Do not use post-plant incorporation with hoe drills. This practice will result in unacceptable seeding depth and an excessive concentration of this product in the seed zone.

Use of this product not consistent with this label may result in injury to persons, animals or crops, or other unintended consequences. Keep container closed to prevent spills and contamination.

### APPLICATION EQUIPMENT AND TECHNIQUES

This product must be applied through a specially designed ground applicator or airplane capable of applying small quantities of granules evenly.

Application is limited to one per growing season and must not exceed 15 pounds of Avadex® MinTill Herbicide per acre.

#### GROUND EQUIPMENT:

It is important that the applicator be calibrated properly to deliver the desired amount of this product to avoid applying too little, or too much, material. To give even distribution, scatter plates (similar to those used for applying granules in a band) must be attached to each delivery tube or outlet in such a manner to give overall coverage. To calibrate, attach a collector pan, or bag, over each spreader plate or delivery tube. Operate over normal terrain to be treated at 4 to 5 miles per hour. Collect the granules from all outputs after covering the desired distance.

**For example:** If a 14-foot applicator is being used, stake off a distance of 324 feet in the field to be treated (distance equal to 1/10 acre treated). After attaching a bag or a collection pan to each outlet, collect the granules while driving the desired distance. Check to see that each outlet disperses the same amount of granules. Combine all samples and weigh. For the above set of conditions, the quantity of granules that should be collected for the following recommended rates of broadcast treatment are:

#### APPLICATION RATES PER ACRE

	<u>10 lbs.</u>	<u>12.5 lbs.</u>	<u>15 lbs.</u>
Amount to be collected:	1 lb.	1.25 lbs.	1.5 lbs.

If more or less than the desired quantity is collected, adjust accordingly and again collect the granules while driving the staked-off distance. Continue this procedure until the required amount is delivered.

**AIRPLANE:** For aerial application, attachments designed for applying low volumes of granules must be used. In order to ensure uniform aerial application, it is recommended that the field distribution pattern is checked and any necessary gate and vent modifications are made to ensure an even pattern distribution. In order to ensure uniform application and to avoid overlapping and possible crop injury, it is recommended that two flaggers, one at each end of the field, be used.

**FIELD PREPARATION**

Before applying this product, be sure the soil is in good working condition. All deep tillage by cultivation, or double disc implements, must be completed prior to application of this product. If stubble ground is being treated, one or two passes with a field cultivator may be required before application and incorporation.

**INCORPORATED APPLICATIONS**

When summer fallow or plowed ground is being treated, a field cultivator will provide adequate incorporation. For proper incorporation of this product, set incorporation implement to work the soil no deeper than 3 to 4 inches. Do not use disc implements for incorporation.

**FALL** - On summer fallow ground which is loose and free of lumps and trash, incorporate this product using equipment similar to a culti-harrow or a duck-foot with rod weeder attachment.

For applications to fields or standing stubble, fields may be worked once or twice with a field cultivator or chisel plow. Apply granules and incorporate with a field cultivator or culti-harrow.

If soil must be ridged after incorporating to prevent soil erosion by high winds, the depth of ridging should be kept to a minimum.

In preparing the herbicide-treated area for seeding in the spring, care must be taken to avoid working the soil any deeper than fall tillage.

When incorporating with a single pass in the fall, a second incorporation must be performed in the spring during seedbed preparation. If no spring work is anticipated, then both incorporations should be done in the fall.

For applications to winter wheat after seeding, apply and shallowly incorporate with a spike tooth, or spring tooth harrow set shallowly as not to disturb wheat seed.

**SPRING – Before Seeding Incorporation:** For applications to fields of standing stubble, work fields once or twice with a disc, field cultivator or chisel plow, to provide soil in a good working condition. Apply granules and incorporate with equipment such as a culti-harrow or duck-foot cultivator. A second incorporation at right angles should provide best results. A delay of at least 3 days between the first and second incorporation is recommended for optimum performance.

FOR SPRING AND DURUM WHEAT AND BARLEY IN MONTANA ONLY – For suppression of Persian darnel (*Lolium temulentum*), apply this product before seeding and shallowly incorporate.

**After Seeding Incorporation:** Apply granules immediately after seeding and shallowly incorporate at right angles with equipment such as a flex multi-weeder or harrow. Adjust incorporation equipment to a depth so as not to disturb the seed.

**FALL TREATMENT INCORPORATED**

CROP	RATE (lb/A)	WHEN TO APPLY
Spring and Durum Wheat, and Barley <sup>^</sup>	12.5 to 15	*Within 3 weeks of normal freeze-up, or until snow cover occurs.
Winter Wheat and Winter Barley <sup>**†^</sup>	12.5 to 15	Before or after seeding.
Sugar beet <sup>^</sup>	15	Fall application – within three weeks of normal freeze-up or until snow cover occurs.

Apply lower rates on light soils and apply higher rates on heavy soils.

Incorporate within 48 hours. For methods, see "FIELD PREPARATION" and "INCORPORATED APPLICATIONS" sections of this label.

\* Breakdown of this product is minimal at soil temperatures of 40°F or less.

\*\* For suppression of downy brome (*Bromus tectorum*), cheat (*Bromus secalinus*) and Japanese brome (*Bromus japonicus*) apply 15 pounds per acre prior to planting and shallowly incorporate. In Colorado, Kansas, Nebraska and South Dakota plant with hoeddrills only.

† For winter wheat in the Pacific Northwest, some crop thinning may occur, especially on clay knobs, where seed is "dusted in" or "floated on" and emergence is delayed. Thinning is usually more than offset by tillering and increased yields.

<sup>^</sup> Not for use on wheat, barley, and sugar beet in California.

**SPRING TREATMENT INCORPORATED**

<b>CROP</b>	<b>RATE (lbs/A)</b>	<b>WHEN TO APPLY</b>
Spring and Durum Wheat <sup>^</sup>	10 to 12.5	After seeding before wild oats germinate.
Spring and Durum Wheat <sup>^</sup>	10	Before seeding and before wild oats germinate - Disc/Press drills.
Spring and Durum Wheat <sup>^</sup>	10 to 12.5	Before seeding and before wild oats germinate – Hoedrills.
Barley and Triticale <sup>^</sup>	12.5 to 15	Just before or immediately after seeding, before wild oats germinate.
Lentils <sup>^</sup>	12.5 to 15	Just before or immediately after seeding, before wild oats germinate.
Peas (green, field dried, chickpeas, garbanzo beans) <sup>^</sup>	12.5 to 15	Just before or immediately after seeding, before wild oats germinate.
Sugar beet <sup>^</sup>	15	Before seeding and before wild oats germinate.

\*Apply lower rates on light soils and apply higher rates on heavy soils.

<sup>^</sup>Not for use on wheat, barley, triticale, peas and sugar beet in California.

Incorporate within 48 hours. For methods, see “FIELD PREPARATION” and “INCORPORATED APPLICATIONS” sections of this label.

Best spring and durum wheat results will be obtained with at least a 3-day delay between herbicide incorporation and seeding.

**BERMUDA GRASS (grown for seed or hay only)**

<b>CROP</b>	<b>RATE (lbs/A)</b>	<b>WHEN TO APPLY</b>
Bermuda grass (established stands only) (This product can only be used in landlocked counties that do not have a contiguous coastal border. Do not use this product in counties that border the coast.)	15	Before wild oats germinate.

Incorporate with irrigation within 7 days after application.

**SURFACE APPLICATION WITH DELAYED INCORPORATION USE ONLY IN IDAHO, MINNESOTA, MONTANA, NORTH DAKOTA, AND UTAH**

This product may be applied as a surface application with a delayed incorporation prior to planting spring wheat, durum wheat, and barley at a rate of 15 pounds per acre for all soil types.

Surface applications of this product which will be followed by a delayed incorporation in the spring may be made beginning 3 weeks prior to soil freeze-up in the fall and ending before spring thaw. (Average soil temperature at the 2-inch depth must be 40°F or less).

Surface applications must be incorporated in the spring; two passes are recommended. If surface applications are made because soil conditions do not permit incorporation and these conditions change, making incorporation possible, incorporate even if several weeks after application.

This surface application may be made in standing stubble or to fields with surface residues. Surface applications should not be made to fields covered with snow or with excessive crop residue, which will not allow granule contact with the soil.

Surface applications with delayed incorporation may not provide the same level of wild oat control as fall incorporated applications. Wild oat control resulting from delayed incorporation may be reduced if drought or abnormally warm temperatures occur between application and crop emergence in the spring. To achieve the most reliable wild oat control, this product should be incorporated within 48 hours of application as described in the “FIELD PREPARATIONS” and “INCORPORATED APPLICATIONS” sections of this label.

**NO-TILL APPLICATION  
FOR WILD OAT CONTROL IN SPRING PLANTED CROPS**

This product may be applied prior to planting no-till spring wheat, durum wheat, and barley at a rate of 15 pounds per acre for all soil types.

For best results no-till applications of this product may be made 3 weeks prior to soil freeze-up and ending before spring thaw (average soil temperature at the 2-inch depth must be 40°F or less). Spring applications can also be made if applications are made at least 10 to 14 days prior to seeding.

No-till applications may be made in standing stubble or to fields with surface residue. No-till applications should not be made under conditions which will not allow granule contact with the soil.

No-till applications are to be made in reduced tillage/no-till systems only. Best results should be expected when utilizing drills equipped with high disturbance openers. When seeding with drills equipped with low disturbance openers, or with spring applications, use of heavy harrows

or similar minimal disturbance implements prior to seeding may improve control. It is recommended that seeding be delayed until fields begin to green up in the spring and an application of a glyphosate herbicide has been made to control emerged weeds. If this product is used in any other system, it must be applied and incorporated as described elsewhere in this label.

#### **SURFACE APPLICATION FOR FALL PLANTED CROPS**

FOR USE IN COLORADO, KANSAS, NEBRASKA AND SOUTH DAKOTA-- This product can be surface-applied prior to seeding of winter wheat without incorporation when seeding is done with a hoeddrill. Apply 15 pounds per acre for suppression of downy brome (*Bromus tectorum*), cheat (*Bromus secalinus*) and Japanese brome (*Bromus japonicus*).

FOR USE IN IDAHO, MONTANA, OREGON, UTAH and WASHINGTON -- Apply this product at a rate of 15 pounds per acre as a surface application ahead of a Yielder™ type no-till drill to obtain suppression of wild oats and downy brome in winter wheat or barley. A flex-tine harrow attached to the drill or used shallowly following planting at a right angle to the drill rows may improve herbicide performance.

If you have any questions concerning this label pamphlet or the proper application or use of Avadex® MinTill Herbicide, contact your local Gowan Company Sales Representative.

#### **STORAGE AND DISPOSAL**

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

**PESTICIDE STORAGE:** Keep bag closed to prevent spills and contamination.

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

**CONTAINER DISPOSAL:** Nonrefillable container. Do not reuse or refill this container. Emptied container retains vapor and product residue. Observe all labeled safeguards until container is cleaned, reconditioned or destroyed. Completely empty container into transfer or application equipment. Offer for recycling, if available, or dispose of empty sack in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**For Multiwall Bags:** Nonrefillable container. Do not reuse or refill this container. Completely empty container into application equipment. Offer for recycling if available, or dispose of empty container in a sanitary landfill or by incineration, or, if allowed by state and local authorities, by burning. If burned, stay out of smoke.

**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 LIABILITY 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. To the extent consistent with applicable law, 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 Direction 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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