



U.S. ENVIRONMENTAL PROTECTION AGENCY

Office of Pesticide Programs  
Registration Division (7505P)  
1200 Pennsylvania Ave., N.W.  
Washington, D.C. 20460

EPA Reg. Number:

5481-612

Date of Issuance:

10/23/17

NOTICE OF PESTICIDE:

Registration  
 Reregistration  
(under FIFRA, as amended)

Term of Issuance:

Conditional

Name of Pesticide Product:

ImpactZ Herbicide

Name and Address of Registrant (include ZIP Code):

AMVAC Chemical Corporation  
4695 MacArthur Court, Suite 1200  
Newport Beach, CA 92660

Note: Changes in labeling differing in substance from that accepted in connection with this registration must be submitted to and accepted by the Registration Division prior to use of the label in commerce. In any correspondence on this product always refer to the above EPA registration number.

On the basis of information furnished by the registrant, the above named pesticide is hereby registered under the Federal Insecticide, Fungicide and Rodenticide Act.

Registration is in no way to be construed as an endorsement or recommendation of this product by the Agency. In order to protect health and the environment, the Administrator, on his motion, may at any time suspend or cancel the registration of a pesticide in accordance with the Act. The acceptance of any name in connection with the registration of a product under this Act is not to be construed as giving the registrant a right to exclusive use of the name or to its use if it has been covered by others.

This product is conditionally registered in accordance with FIFRA section 3(c)(7)(A). You must comply with the following conditions:

1. 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.

Signature of Approving Official:

Debra Rate, PhD, Acting Product Manager 25  
Herbicide Branch, Registration Division (7505P)

Date:

10/23/17

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

a. Topramezone GDCI-123009-1578

You must comply with all of the data requirements within the established deadlines. If you have questions about the Generic DCI listed above, you may contact the Chemical Review Manager in the Pesticide Reevaluation Division: <http://iaspub.epa.gov/apex/pesticides/f?p=chemicalsearch:1>

3. The data requirements for storage stability and corrosion characteristics (Guidelines 830.6317 and 830.6320) are not satisfied. A one year study is required to satisfy these data requirements. You have 18 months from the date of registration to provide these data.

4. Make the following label changes before you release the product for shipment:

- Revise the EPA Registration Number to read, "EPA Reg. No. 5481-612."

5. Submit one copy of the final printed label for the record before you release the product for shipment.

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.

If you fail to satisfy these data requirements, EPA will consider appropriate regulatory action including, among other things, cancellation under FIFRA section 6(e). Your release for shipment of the product constitutes acceptance of these conditions. A stamped copy of the label is enclosed for your records. Please also note that the record for this product currently contains the following CSFs:

- Basic CSF dated 10/19/2017

If you have any questions, please contact Sarah Meadows by phone at 703-347-0505, or via email at [meadows.sarah@epa.gov](mailto:meadows.sarah@epa.gov).

Attachment

# RESTRICTED USE PESTICIDE

(GROUND AND SURFACEWATER CONCERNS)

For retail sale to and use by Certified Applicators or persons under their direct supervision, and only for those uses covered by the Certified Applicator's certification. This product is a restricted-use herbicide due to ground and surface water concerns. User must read and follow all precautionary statements and instructions for use in order to minimize potential for atrazine to reach ground and surface water.

**ACCEPTED**

10/23/2017

Under the Federal Insecticide, Fungicide and Rodenticide Act as amended, for the pesticide registered under EPA Reg. No. 5481-612

Group

5

27

Herbicide

**IMPACTZ**  
Herbicide™

For control of emerged weeds in all types of field corn, seed corn, popcorn and sweet corn, and weed management between crops.

**Active Ingredients\*:**

Topramezone.....	2.85%
Atrazine.....	42.60%
Atrazine Related Compounds.....	1.11%
<b>Other Ingredients:</b> .....	<b>53.44%</b>
<b>Total:</b> .....	<b>100.0%</b>

\*This product contains 0.26 pounds of topramezone free acid and 4 pounds of atrazine per gallon

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

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

FIRST AID	
<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 first 5 minutes, then continue rinsing eye.</li> <li>• Call a poison control center or doctor for treatment advice.</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 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.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>If inhaled:</b>	<ul style="list-style-type: none"> <li>• Move person to fresh air.</li> <li>• If person is not breathing, call 911 or an ambulance, and then give artificial respiration, preferably mouth-to-mouth, if possible.</li> <li>• Call a poison control center or doctor for treatment advice.</li> </ul>

## EMERGENCY INFORMATION

Have the product container or label with you when calling a poison control center or doctor, or going for treatment.

### FOR THE FOLLOWING EMERGENCIES, PHONE 24 HOURS A DAY:

For Medical Emergencies phone:.....1-888-681-4261  
For Transportation Emergencies, including spill, leak or fire, phone: CHEMTREC®.....1-800-424-9300  
For Product Use Information phone: AMVAC®.....1-888-462-6822

See back panel for additional Precautionary Statements.

EPA Reg. No. 5481-xxx

EPA Est. No.

Net Contents:

As marked on Container



## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

**CAUTION.** Harmful if absorbed through skin. Harmful if swallowed. Avoid contact with skin, eyes, or clothing. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals. Wash thoroughly with soap and water after handling and before eating, drinking, chewing gum, using tobacco, or using the toilet.

### Personal Protective Equipment (PPE)

#### Mixers, loaders, applicators, flaggers and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical resistant gloves made of Barrier Laminate, Butyl Rubber  $\geq$  14 mils, Nitrile Rubber  $\geq$  14 mils, Neoprene Rubber  $\geq$  14 mils, Natural Rubber  $\geq$  14 mils, Polyethylene, Polyvinyl Chloride (PVC)  $\geq$  14 mils, or Viton  $\geq$  14 mils
- Shoes plus socks
- Chemical resistant apron when mixing/loading, cleaning up spills, cleaning equipment, or otherwise exposed to the concentrate.

See **Engineering Controls** for additional requirements.

Follow manufacturer's instructions for cleaning and maintaining PPE. If no such instructions for washables, 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

When applicators use enclosed cabs in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(5)], the handler PPE requirements may be reduced or modified as specified in the WPS. When handlers use closed systems, enclosed cabs, or aircraft in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40 CFR 170.240(d)(4-6)], the handler PPE requirements may be reduced or modified as specified in the WPS.

Pilots must use an enclosed cockpit in a manner that is consistent with the WPS for Agricultural Pesticides [40 CFR 170.240(d)(6)]. Pilots must wear the PPE required on this labeling for applicators, however, they need not wear chemical-resistant gloves when using an enclosed cockpit. Flaggers supporting aerial applications must use an enclosed cab that meets the definition on the Worker Protection Standard for Agricultural Pesticides [40 CFR 170.240(d)(5)] for dermal protection.

## **Environmental Hazards**

This pesticide is toxic to aquatic invertebrates. 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 apply when weather conditions favor drift from treated areas. Runoff and drift from treated areas may be hazardous to aquatic organisms in neighboring areas. Do not contaminate water when disposing of equipment wash water.

### **Surface Water Advisory**

This product may contaminate water through drift of spray in wind. This product has a high potential for runoff for several weeks after application. Poorly drained 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 runoff. Runoff of this product will be reduced by avoiding applications when rainfall is forecasted to occur within 48 hours. Sound erosion control practices will reduce this product's contribution to surface water contamination.

This product contains the active ingredients atrazine and topramezone. Atrazine can move (seep or leach) through soil and can enter ground and surface water which may be used as drinking water. Atrazine has been found in ground and surface water. Users are advised not to apply atrazine to sand and loamy sand soils where the water table (groundwater) is close to the surface and where these soils are very permeable, i.e., well-drained. Your local agricultural agencies can provide further information on the type of soil in your area and the location of groundwater.

This product must not be mixed/loaded, or used within 50 feet of all wells, including abandoned wells, drainage wells, and sink holes. Operations that involve mixing, loading, rinsing, or washing of this product into or from pesticide handling or application equipment or containers within 50 feet of any well are prohibited, unless conducted on an impervious pad constructed to withstand the weight of the heaviest load that may be positioned on or moved across the pad. Such a pad shall be designed and maintained to contain any product spills or equipment leaks, container or equipment rinse or wash water, and rain water that may fall on the pad. Surface water shall not be allowed to either flow over or from the pad, which means the pad must be self-contained. The pad shall be sloped to facilitate material removal. An unroofed pad shall be of sufficient capacity to contain at a minimum 110% of the capacity of the largest pesticide container or application equipment on the pad. A pad that is covered by a roof of sufficient size to completely exclude precipitation from contact with the pad shall have a minimum containment capacity of 100% of the capacity of the largest pesticide container or application equipment on the pad. Containment capacities as described above shall be maintained at all times. The above-specified minimum containment capacities do not apply to vehicles when delivering pesticide shipments to the mixing/loading sites.

Additional State imposed requirements regarding well-head setbacks and operational area containment must be observed.

This product must not be mixed or loaded within 50 feet of intermittent streams and rivers, natural or impounded lakes and reservoirs. This product may not be applied aerially or by ground within 66 feet of the points where field surface water runoff enters perennial or intermittent streams and rivers or within 200 feet around natural or impounded lakes and reservoirs. If this product is applied to highly erodible land, the 66 foot buffer or setback from runoff entry points must be planted to crop, seeded with grass or other suitable crop.

### **Terraced Fields with tile outlets and Containing Standpipes**

One of the following restrictions must be used in applying atrazine to tile-terraced fields containing standpipes:

1. Do not apply this product within 66 feet of standpipes in terraced fields with tile outlets.
2. If this this product is applied to the entire terraced field with tile outlets, immediately incorporate it to a depth of 2-3 inches in the entire field.

3. Apply this product to the entire terraced field with tile outlets and under a no-till practice only when a high crop residue management practice is utilized. High crop residue management is described as a crop management practice where little or no crop residue is removed from the field during and after crop harvest.

## DIRECTIONS FOR USE

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

ANY USE OF THIS PRODUCT IN AN AREA WHERE USE IS PROHIBITED IS A VIOLATION OF FEDERAL LAW. Before using this product, you must consult the Atrazine Watershed Information Center (AWIC) to determine whether the use of this product is prohibited in your watershed. AWIC can be accessed through [www.atrazine-watershed.info](http://www.atrazine-watershed.info) or 1-866-365-3014. If use of this product is prohibited in your watershed, you may return this product to your point of purchase or contact AMVAC Chemical Corporation for a refund.

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. 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
- Chemical resistant gloves made of Barrier Laminate, Butyl Rubber  $\geq$  14 mils, Nitrile Rubber  $\geq$  14 mils, Neoprene Rubber  $\geq$  14 mils, Natural Rubber  $\geq$  14 mils, Polyethylene, Polyvinyl Chloride (PVC)  $\geq$  14 mils, or Viton  $\geq$  14 mils
- Shoes plus socks

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

## I. PRODUCT INFORMATION

IMPACTZ herbicide is a systemic herbicide for selective control and growth suppression of emerged broadleaf and grass weeds in field corn (grown for grain, silage or seed), popcorn (grown for ear, kernel or seed) and sweet corn (grown for ear, kernel or seed), and between crop applications. This product may be used on conventional and herbicide resistant/tolerant corn hybrids. AMVAC has not tested all inbred lines of corn for tolerance to this product. Before using this product, refer to seed company recommendations for use on inbred lines of field corn, popcorn and sweet corn.

Susceptible weeds will stop growing soon after application while death of weeds may take several more days, depending on growing conditions before and following application weed type and size. When applied broadcast to emerged weeds as directed, this product will control or suppress the broadleaf weeds listed in Table 1 and the grass weeds listed in Table 2.

IMPACTZ may be tank-mixed with other corn herbicides to provide both broader spectrum and residual weed control. Refer to Tank Mixes in the Crop Use Directions (Section VII). It is the pesticide user’s responsibility to ensure that all products in the listed mixtures are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

Applications of IMPACTZ herbicide must also include recommended spray additives. Refer to Additives and Mixing Order (Sections III and IV) for directions.

**Table 1. Broadleaf Weeds Controlled or Suppressed with IMPACTZ and Maximum Weed Size at Application** (Including ALS-Resistant [Herbicide Group 2]<sup>1</sup>, Glyphosate-Resistant [Herbicide Group 9], and PPO-Resistant [Herbicide Group 14])

Annual Broadleaf Weeds <sup>2</sup>	IMPACTZ 8.0 to 10.7 fl oz per acre	Annual Broadleaf Weeds <sup>2</sup>	IMPACTZ 8.0 to 10.7 fl oz per acre
	Maximum Weed Size (Inches) <sup>3</sup>		Maximum Weed Size (Inches) <sup>3</sup>
Amaranth, Palmer	6 <sup>4</sup>	Nightshade, Eastern Black	6
Amaranth, Powell	6	Nightshade, Hairy	6
Buckwheat, Wild	3 <sup>5</sup>	Pigweed, Prostrate	6
Burcucumber	6	Pigweed, Redroot	6
Canola, Volunteer	6	Pigweed, Smooth	6
Carpetweed	6	Pigweed, Tumble	4
Chickweed, Common	4	Prickly Lettuce	4
Cocklebur, Common	8	Pusley, Florida	3
Dandelion	6 <sup>5</sup>	Ragweed, Common	6
Devil’s Claw	4 <sup>4</sup>	Ragweed, Giant	8 <sup>4</sup>
Galinsoga, Hairy	6	Shepherd’s-purse	4
Henbit	4	Sida, Prickly	3
Jimsonweed	6	Smartweed, Ladysthumb	3
Kochia	6 <sup>4</sup>	Smartweed, Pennsylvania	3
Lambsquarters, Common	6	Sunflower, Common	8 <sup>4</sup>
Mallow, Common	3	Thistle, Canada	6 <sup>5</sup>
Mallow, Venice	3	Thistle, Russian	4
Marestail (Horseweed)	6 <sup>4</sup>	Velvetleaf	8 <sup>4</sup>
Morningglories	6 <sup>5</sup>	Waterhemp, Common	6 <sup>4</sup>
Mustards	6	Waterhemp, Tall	6 <sup>4</sup>
Nightshade, Black	6		

<sup>1</sup>ALS (acetolactate synthase) resistant weeds include those weeds resistant to the sulfonylurea, imidazolinone, or sulfonamide families of herbicides.

<sup>2</sup>Refer to Section X for a list of scientific weed names.

<sup>3</sup>For best performance, apply before weeds exceed the maximum stem size or vine length listed in this table.

<sup>4</sup>Apply rate of 10.7 fl oz per acre if maximum size is reached on these weeds.

<sup>5</sup>Indicates growth suppression.

**Table 2. Annual Grass Weeds Controlled or Suppressed with IMPACTZ and Maximum Weed Size at Application (Including ALS-Resistant [Herbicide Group 2] Biotypes)**

Annual Grass Weeds <sup>1</sup>	IMPACTZ 8.0 fl oz per acre		IMPACTZ 10.7 fl oz per acre	
	Maximum Weed Size (Inches) <sup>2</sup>	Rating <sup>3</sup>	Maximum Weed Size (Inches) <sup>2</sup>	Rating <sup>3</sup>
Barnyardgrass	4	C	5	C
Crabgrass, Large	3	C	4	C
Crabgrass, Smooth	3	C	4	C
Cupgrass, Woolly	3	PC	3	C
Foxtail, Giant	4	C	5	C
Foxtail, Green	3	C	4	C
Foxtail, Yellow	3	PC	3	C
Goosegrass	3	C	4	C
Johnsongrass, Seedling	4	PC	4	C
Millet, Wild-Proso	3	C	4	C
Panicum, Fall	3	PC	3	C
Panicum, Texas	3	PC	3	PC
Shattercane	3	PC	4	PC
Signalgrass, Broadleaf	3	PC	3	C

<sup>1</sup>Refer to Section X for a list of scientific weed names.

<sup>2</sup>For best performance, apply before grasses exceed the maximum size listed in this table.

<sup>3</sup>Rating: C=Control; PC=Partial Control.

### Mode of Action

IMPACTZ is a combination of topramezone and atrazine (Group 5 and 27 Herbicides), and is absorbed by leaves, roots, and shoots and translocated to the growing points of sensitive weeds to provide control of emerged weeds. IMPACTZ controls weeds by inhibition of both carotenoid biosynthesis and photosystem II inhibition. Temperatures and moisture conditions supporting active plant growth are important for optimum herbicidal activity. Applications of IMPACTZ to weeds during stress conditions such as cold temperatures and/or drought can result in delayed or reduced performance.

### Best Management Practices to Mitigate Herbicide Resistance

It is critical to adopt a diversified weed management system in order to provide appropriate stewardship for this herbicide and to ensure consistent weed control and to best protect potential crop yield. Herbicide best management practices should be augmented with cultural (e.g., crop rotation) and mechanical (e.g., tillage) tactics. Effort should be expended to keep escaped weeds from contributing seeds to the soil weed seed bank. Scouting soon after herbicide application is an important strategy to identify weed population shifts or herbicide-resistant biotypes before the problems become more difficult to manage. Take precautions to keep equipment free of weed seeds when moving from field to field. This is extremely important if fields are custom harvested. By adopting best management practices and providing stewardship to protect against the evolution of herbicide resistance, crop yield potential is higher and thus economic returns are greater.

To delay herbicide resistance take one or more of the following steps:

- Rotate the use of IMPACTZ or other Group 5 and 27 herbicides within a growing season sequence or among growing seasons with different herbicide groups that control the same weeds in a field.
- Use tank mixtures with herbicides from a different group if such use is permitted; where information on resistance in target weed species is available, use the less resistance-prone partner at a rate that will control the



target weed(s) equally as well as the more resistance-prone partner. Consult your local extension service or certified crop advisor if you are unsure as to which active ingredient is currently less prone to resistance.

- Adopt an integrated weed-management program for herbicide use that includes scouting and uses historical information related to herbicide use and crop rotation, and that considers tillage (or other mechanical control methods), cultural (e.g., higher crop seeding rates; precision fertilizer application method and timing to favor the crop and not the weeds), biological (weed-competitive crops or varieties) and other management practices.
- Scout after herbicide application to monitor weed populations for early signs of resistance development. Indicators of possible herbicide resistance include: ( 1) failure to control a weed species normally controlled by the herbicide at the dose applied, especially if control is achieved on adjacent weeds ; (2) a spreading patch of non-controlled plants of a particular weed species; (3) surviving plants mixed with controlled individuals of the same species. **If resistance is suspected, prevent weed seed production in the affected area by an alternative herbicide from a different group or by a mechanical method such as hoeing or tillage.** Prevent movement of resistant weed seeds to other fields by cleaning harvesting and tillage equipment when moving between fields, and planting clean seed.
- If a weed pest population continues to progress after treatment with this product , discontinue use of this product, and switch to another management strategy or herbicide with a different mode of action, if available.
- Contact your local extension specialist or certified crop advisors for additional pesticide resistance-management and/or integrated weed-management recommendations for specific crops and weed biotypes.
- For further information or to report suspected resistance, contact customer service at 1-888-462-6822.

Contact your local sales representative crop, advisor or extension agent to find out if suspected resistant weeds to these MOAs have been found in your region. Do not assume that each listed weed is being controlled by multiple mechanisms of action. Co-formulated active ingredients are intended to broaden the spectrum of weeds that are controlled. Some weeds may be controlled by only one of the active ingredient in this product.

Suspected herbicide-resistant weeds may be identified by these indicators:

- Failure to control a weed species normally controlled by the herbicide are the dose applied especially if control is achieved on adjacent weeds
- A spreading patch of non-controlled plants of a particular weed species; and
- Surviving plants mixed with controlled individuals of the same species.

### **Crop Tolerance**

IMPACTZ herbicide should be applied during favorable growing conditions for optimum crop tolerance and weed control. Crops under environmental stress are more likely to show injury from any herbicide application. In rare situations, crops under environmental stress conditions and treated with IMPACTZ may show some transient bleaching of the portion of the leaves intercepting the spray application. These symptoms are temporary and quickly outgrown, and crop yield is not affected.

### **Cultivation**

Avoid cultivating treated crops within 7 days prior to or following an application of IMPACTZ to allow maximum possible herbicide uptake, translocation, and weed control. If cultivation is part of a diverse weed management program, it is important to avoid deep cultivation that will move dormant weed seeds into the soil zone where germination is likely.

### **Insecticide Information**

This product may be used sequentially or in combination with soil-applied or foliar-applied insecticides registered for use in corn.

## II. APPLICATION INSTRUCTIONS

This product is effective for control of emerged annual weeds in conservation and conventional-tillage crop production systems.

A 30-foot spray buffer must be maintained between edge of treated field and the downwind edge of any native plant community which exists.

The applicator is responsible for any loss or damage that results from spraying IMPACTZ herbicide in a manner other than directed in this label. In addition, applicator must follow all applicable state and local regulations and ordinances in regards to spraying.

### **IMPACTZ Application Rate and Timing:**

- IMPACTZ Herbicide may be applied up to a total of 10.7 fluid ounces (atrazine 0.333 plus topramezone 0.022 pounds active ingredient) per treated acre per growing season. The maximum cumulative (both corn and between crop application uses) amount is 10.7 fl per acre of IMPACTZ per year.
- IMPACTZ Herbicide can be applied up to 45 days prior to corn harvest. Applications must be made before corn exceeds 12 inches in height.
- Apply IMPACTZ Herbicide to emerged weeds that are actively growing.
- For optimal weed control apply IMPACTZ Herbicide before weeds exceed labeled maximum size.
- IMPACTZ Herbicide should be applied a minimum of 4 hours before rainfall or overhead irrigation.

### **Spray Coverage**

Weeds must be thoroughly covered with spray droplets to achieve consistent control of emerged weeds. Dense leaf canopies will shield smaller weeds and can prevent adequate spray coverage on these weeds resulting in poor overall weed control.

### **Ground Application Methods and Equipment**

Uniformly apply IMPACTZ as a broadcast, over-the-top spray with properly calibrated ground equipment in 10 or more gallons of water per acre. Use water volumes of at least 15 gallons per acre when treating larger weeds and/or dense weed infestations. Select nozzle types, spray pressure, and carrier volume that deliver medium to coarse droplets which will thoroughly cover target weeds.

### **Spray Drift**

Do not apply when weather conditions favor spray drift to adjacent crops and vegetation as this may cause injury. To avoid spray drift from treated areas, do not make applications when wind speeds exceed 10 mph or during periods of temperature inversions. Use of nozzles that are designed to provide more coarse droplet sizes will reduce spray drift potential. Agriculturally approved drift-reducing additives may also be used.

### **Aerial Application Methods and Equipment**

Uniformly apply with properly calibrated aerial equipment in 3 or more gallons of water per acre. Adequate spray volume must be used to provide accurate and uniform distribution of spray particles over the treated area and to avoid drift of spray particles to non-target areas.

To avoid injury to sensitive crops from drift, aerial applicators must adhere to the following SPECIAL AERIAL USE DIRECTIONS AND PRECAUTIONS.

- Nozzle height above ground must be a maximum of 10 feet.
- Nozzles must be pointed towards the rear of the aircraft. The downward angle of the nozzle should not be greater than 20 degrees.
- To minimize wing-tip vortex roll, nozzles or spray boom must not be located any closer to end of wing or rotor than three-fourths the distance from the center of the aircraft.

- Use a maximum spray pressure of 40 psi.
- A buffer zone must be established between the area to be sprayed and sensitive crops.
- DO NOT spray when wind velocity is greater than 5 mph or during periods of temperature inversions. Coarse sprays (larger droplets) are less likely to drift.

### Cleaning Spray Equipment

To avoid injury to sensitive crops, flush the spray tank, hoses, booms and nozzles with clean water. Clean, rinse and drain the application equipment thoroughly using a strong detergent or commercial spray tank cleaner according to the manufacturer's directions. Equipment should be cleaned and triple rinsed before and after applying IMPACTZ herbicide.

## III. ADDITIVES

Applications of IMPACTZ to emerged weeds require the addition of an adjuvant **AND** a nitrogen fertilizer source to achieve optimum control, unless specific directions are given in Section VII. Crop Use Directions – Tank Mixes.

**1. ADJUVANTS:** Use either a methylated seed oil (MSO) or high surfactant methylated oil concentrate containing at least 80% oil and 14% emulsifiers with this product. Apply MSO-based adjuvant concentrates at the rates of 1.0 to 1.5 gallons per 100 gallons of water (1.0% to 1.5% v/v). Use the higher labeled rate when making an application in arid conditions, or during periods of hot dry weather and to larger weeds.

**2. NITROGEN FERTILIZER SOURCE:** Recommended nitrogen based fertilizers include urea ammonium nitrate (UAN; 28-34%) at 1.25 to 2.5 gallons per hundred gallons of water (1.25% to 2.5% v/v). Instead of a liquid fertilizer, spray grade ammonium sulfate (AMS) at 8.5 to 17 pounds per 100 gallons of water (or an equivalent liquid AMS product) may be used. Use the higher labeled rate when making application during periods of hot dry weather and to larger weeds.

## IV. MIXING ORDER

Following are mixing order guidelines for IMPACTZ when mixing in water and with other components, including spray adjuvants:

### TANK-MIX PREPARATION:

When tank-mixing this product with recommended herbicides, add the other herbicides and other components in the following order, all while agitating:

1. Fill spray tank  $\frac{1}{2}$  to  $\frac{3}{4}$  full with clean water.
2. Add water-soluble PVA packet products, if included, and thoroughly mix until fully dissolved.
3. Add water-soluble additives, including dry or liquid nitrogen fertilizers such as AMS or UAN.
4. Add IMPACTZ herbicide.
5. Add other water-dispersible products such as dispersible granules, dry flowables, suspension concentrates, or liquid flowables.
6. Add water-soluble products.
7. Add emulsifiable concentrates, including MSO or HSOC adjuvants.
8. Fill the remainder of spray tank with water and ensure thorough mixing of all products .

## V. TANK MIX INFORMATION

IMPACTZ herbicide is recommended to be used sequentially or tank mixed with other herbicides as part of a complete weed control program. Tank mix recommendations are for use only in states where the sequential or tank mix product and application site is registered. Refer to Crop Use Directions (Section VII) for more details and for specific tank mix restrictions. Read and follow the applicable Restrictions and Limitations (Section VI) and Directions for Use on all products included in any tank mix. The most restrictive labeling applies to tank mixes. Do

not use liquid fertilizer as a carrier for in-crop applications of IMPACTZ applied to corn. Use only water as a carrier. It is the pesticide user's responsibility to ensure that all products are registered for the intended use. Read and follow the applicable restrictions and limitations and directions for use on all product labels involved in tank mixing. Users must follow the most restrictive directions for use and precautionary statements of each product in the tank mixture.

## VI. RESTRICTIONS AND LIMITATIONS

- Maximum seasonal use rate: No more than 10.7 fl oz per acre (atrazine 0.333 plus topramezone 0.022 pounds active ingredient per acre) of this product may be applied during the growing season.
- Do Not apply IMPACTZ within 45 days of corn harvest (fresh market sweet corn, silage, fodder, or grain).
- Do Not apply IMPACTZ to corn that exceeds 12 inches in height.
- Do Not graze or feed treated corn forage, silage, fodder, or grain for at least 60 days after an application of IMPACTZ.

Do not apply this product through any type of irrigation system. If no atrazine was applied prior to corn emergence, apply a maximum of 2 lb ai/A broadcast. If a postemergence treatment is required following an earlier herbicide application, the total atrazine applied may not exceed 2.5 lb ai/A per calendar year.

Apply a maximum of 2.0 lb ai/A as a single preemergence application on soils that are not highly erodible or on highly erodible soils if at least 30% of the soil is covered with plant residues; or Apply a maximum of 1.6 lb ai/A as a single preemergence application on highly erodible soils if <30% of the surface is covered with plant residues; or 2.0 lb ai/A if only applied postemergence.

When tank mixing or sequentially applying atrazine or products containing atrazine, do not exceed an application rate of 2.0 pounds atrazine per acre for any single application and the total pounds of atrazine applied must not exceed 2.5 pounds active ingredient per acre per year.

### Table 3. ROTATIONAL CROP RESTRICTIONS

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

Rotational Crop	IMPACTZ Application Rate (fl oz. per acre)	
	8.0	10.7
	Rotational Interval (months)	
Corn (Field, Pop, Seed, Sweet)	Immediate	Immediate
Alfalfa, Barley, Cotton, Peanut, Potato, Rye, Sorghum, Soybean, Sunflower, Wheat	9	9
Canola, Flax	9	18
All Other Crops	18	18

## VII. CROP USE DIRECTIONS

### CORN (Field, Pop, Seed and Sweet)

IMPACTZ herbicide can be selectively applied to emerged weeds in all corn types including conventional and herbicide-resistant/tolerant corn hybrids. In addition, IMPACTZ may be applied on inbred lines used in field corn, popcorn and sweet corn seed production. IMPACTZ has demonstrated safety on inbred lines of field corn, popcorn and sweet corn, however, refer to seed company recommendations before application of this product to inbreds.

IMPACTZ may be used in tank mixtures or sequential applications with other herbicides that are registered for use in corn. If tank mixed with other products, follow the label restrictions for the most restrictive of the tank mix products. In tank mixtures with oil-based residual corn herbicides, a reduced adjuvant rate is recommended to minimize potential for temporary foliar injury in corn. Under conditions of tender corn foliage in early season applications, NIS at 0.25% v/v may be used as an adjuvant in place of MSO or HSOC.

#### Tank Mixes

**When applied to emerged weeds at 8.0 to 10.7 fl oz per acre, IMPACTZ may be tank-mixed with one or more of, but not limited to, the following corn herbicides:**

2,4-D <sup>1</sup>	Cinch <sup>®</sup> brands	Hornet <sup>®</sup>	Resource <sup>®</sup>
AAtrex <sup>®</sup>	Clarity <sup>®1</sup>	Keystone <sup>®</sup> brands	Roundup <sup>®</sup> brands
Accent <sup>®</sup> Q	Degree <sup>®</sup> brands	Liberty <sup>®</sup>	Status <sup>®</sup>
Aim <sup>®</sup>	Dual II Magnum <sup>®</sup>	Lightning <sup>®</sup>	Steadfast <sup>®</sup> Q
Anthem <sup>®</sup> brands	Durango <sup>®</sup> DMA <sup>®</sup>	Marksman <sup>®1</sup>	Stinger <sup>®1</sup>
Basagran <sup>®</sup>	FulTime <sup>®</sup> brands	Option <sup>®</sup>	Surpass <sup>®</sup> brands
Bicep II Magnum <sup>®</sup> brands	Glyphosate	Outlook <sup>®</sup>	TopNotch <sup>®</sup>
Breakfree <sup>®</sup> brands	G-Max <sup>®</sup> Lite™	Prowl <sup>®</sup> H2O	Touchdown <sup>®</sup> brands
Buctril <sup>®</sup>	Guardman Max <sup>®</sup>	Require <sup>®</sup> Q (mp)	Warrant <sup>®</sup>
Cadet <sup>®</sup>	Harness <sup>®</sup> brands	Resolve <sup>®</sup> Q	Zidua <sup>®</sup>

<sup>1</sup> Use of additives specified in Section III may result in crop injury and should not be used in tank mixtures with these herbicides.

## VIII. BETWEEN CROP APPLICATIONS

### Weed Management Between Crops

IMPACTZ may be used as a foliar application to control emerged broadleaf and grass weeds at any time of the year during the period following crop harvest and before the following crop is planted. The following crop may be planted after observing the required interval as defined in the Rotational Crop Restrictions section (Table 3). Several cover crops used to manage soil erosion, soil fertility, or soil moisture, and which will not be used for grazing or harvested have shown tolerance to this herbicide and may be planted following between-crop applications. Consult AMVAC representatives or university extension personnel for information on tolerance of specific cover crops.

## Application Rate and Timing

Apply IMPACTZ herbicide as a broadcast, over-the-top spray at 8.0 fl oz/A to 10.7 fl oz/A. Best product performance is obtained when weeds are small and actively growing. Thorough coverage of existing weeds is essential, and higher spray volume may be needed for best performance. Sequential application may be made with a minimum of 14 days between applications, but DO NOT exceed the maximum cumulative (both corn and between crop application uses) amount of 10.7 fl oz/A (atrazine 0.333 plus topramezone 0.022 pounds active ingredient per acre) of IMPACTZ per year.

Chemical fallow restrictions for atrazine: For soils in North and South Dakota with a pH of 7.5 or greater: Do not apply more than 1.5 pounds atrazine per acre for any application. Do not apply more than one application per year.

For soils in North and South Dakota with a pH of less than 7.5: Do not apply more than 2.0 pounds atrazine per acre for any application. Do not apply more than one application per year.

For all other locations:

Do not apply more than 2.25 pounds atrazine per acre for any application.

Do not apply more than one application per year.

## IX. SEQUENTIAL HERBICIDE COMBINATIONS AND USES

In addition to the control of many emerged broadleaf weeds, this product controls or suppresses the growth of several emerged grass weed species. To target control of a broader spectrum of annual grasses, this product should be used as a sequential treatment following a preemergence grass herbicide (Group 15 or Group 3 herbicide) such as Dual II Magnum<sup>®</sup>, Harness<sup>®</sup>, Prowl<sup>®</sup> H<sub>2</sub>O, or Zidua<sup>®</sup>. This product can also be used in sequential programs with registered burndown herbicides.

When this product is used in sequential applications following other products containing Group 27 herbicides such as isoxaflutole (e.g., Corvus<sup>®</sup>, Balance<sup>®</sup> Flexx), mesotrione (e.g., Callisto<sup>®</sup>, Lexar<sup>®</sup>, Lumax<sup>®</sup>), or tembotrione (e.g., Laudis<sup>®</sup>, Capreno<sup>®</sup>), use of a tank mix partner with a different effective mode of action is recommended at full use rates to reduce risk of selection for HPPD resistant weed biotypes.

## X. SCIENTIFIC NAMES OF WEEDS SPECIFIED IN THIS LABEL

Common Name	Scientific Name	Common Name	Scientific Name
Amaranth, Palmer	<i>Amaranthus palmeri</i>	Morning glory	<i>Ipomoea</i> spp.
Amaranth, Powell	<i>Amaranthus powellii</i>	Mustard	<i>Brassica</i> spp.
Barnyardgrass	<i>Echinochloa crus-galli</i>	Nightshade, Eastern black	<i>Solanum ptychanthum</i>
Buckwheat, Wild	<i>Polygonum convolvulus</i>	Nightshade, Black	<i>Solanum nigrum</i>
Burcucumber	<i>Sicyos angulatus</i>	Nightshade, Hairy	<i>Solanum sarrachoides</i>
Canola, Volunteer	<i>Brassica</i> spp.	Panicum, Fall	<i>Panicum dichotomiflorum</i>
Carpetweed	<i>Mollugo verticillata</i>	Panicum, Texas	<i>Panicum texanum</i>
Chickweed, Common	<i>Stellaria media</i>	Pigweed, Prostrate	<i>Amaranthus blitoides</i>
Crabgrass, Large	<i>Digitaria sanguinalis</i>	Pigweed, Redroot	<i>Amaranthus retroflexus</i>
Crabgrass, Smooth	<i>Digitaria ischaemum</i>	Pigweed, Smooth	<i>Amaranthus hybridus</i>
Cocklebur, Common	<i>Xanthium strumarium</i>	Pigweed, Tumble	<i>Amaranthus album</i>
Cupgrass, Woolly	<i>Eriochloa villosa</i>	Prickly Lettuce	<i>Lactuca serriola</i>
Dandelion	<i>Taraxacum officinale</i>	Pusley, Florida	<i>Lactuca serriola</i>
Devil's Claw	<i>Proboscidea parviflora</i>	Ragweed, Common	<i>Ambrosia artemisiifolia</i>

Foxtail, Giant	<i>Setaria faberi</i>	Ragweed, Giant	<i>Ambrosia trifida</i>
Foxtail, Green	<i>Setaria viridis</i>	Shattercane	<i>Sorghum bicolor</i>
Foxtail, Yellow	<i>Setaria glauca</i>	Shepherd's-purse	<i>Capsella bursa-pastoris</i>
Galinsoga, Hairy	<i>Galinsoga ciliata</i>	Sida, Prickly	<i>Sida spinosa</i>
Goosegrass	<i>Eleusine indica</i>	Signalgrass, Broadleaf	<i>Brachiaria platyphylla</i>
Henbit	<i>Lamium amplexicaule</i>	Smartweed, Pennsylvania	<i>Polygonum pennsylvanicum</i>
Jimsonweed	<i>Datura stramonium</i>	Smartweed, Ladysthumb	<i>Polygonum persicaria</i>
Johnsongrass	<i>Sorghum halepense</i>	Sunflower, Common	<i>Helianthus annuus</i>
Kochia	<i>Kochia scoparia</i>	Thistle, Canada	<i>Cirsium arvense</i>
Lambsquarters, Common	<i>Chenopodium album</i>	Thistle, Russian	<i>Salsola iberica</i>
Mallow, Common	<i>Malva neglecta</i>	Velvetleaf	<i>Abutilon theophrasti</i>
Mallow, Venice	<i>Hibiscus trionum</i>	Waterhemp, Common	<i>Amaranthus rudis</i>
Marestail (Horseweed)	<i>Conyza canadensis</i>	Waterhemp, Tall	<i>Amaranthus tuberculatus</i>
Millet, Wild-Proso	<i>Panicum miliaceum</i>		

#### STORAGE AND DISPOSAL

Do not contaminate water, food or feed by storage, disposal, or cleaning of equipment. When open dumping do not contaminate water, food or feed by storage or disposal.

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

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

**CONTAINER HANDLING:** Nonrefillable container. Do not reuse or refill this container. Triple rinse (or equivalent) promptly after emptying. Triple rinse as follows: Empty the remaining contents into application equipment or a mix tank and drain for 10 seconds after the flow begins to drip. Fill the container ¼ full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank and store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling if available or reconditioning if appropriate or puncture and dispose of in sanitary landfill or by other procedures approved by state and local authorities.

#### LIMITED WARRANTY AND DISCLAIMER

The manufacturer warrants (a) that this product conforms to the chemical description on the label; (b) that this product is reasonably fit for the purposes set forth in the directions for use, subject to the inherent risks referred to herein, when it is used in accordance with such directions; and (c) that the directions, warnings, and other statements on this label are based upon responsible experts' evaluations of reasonable tests of effectiveness, of toxicity to laboratory animals and to plants and residues on food crops, and upon reports of field experience. Tests have not been made on all varieties of food crops and plants, or in all states or under all conditions.

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