



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, DC 20460

OFFICE OF CHEMICAL SAFETY
AND POLLUTION PREVENTION

April 17, 2020

Kyla Smith
Registration Specialist
Gowan Company
P.O. Box 5569
Yuma, AZ 85366

Subject: Registration Review Label Mitigation for EPTC
Product Name: GOWAN EPTAM/ACETOCHLOR 67.8%/16.9% EC
HERBICIDE
EPA Registration Number: 10163-285
Application Date: February 6, 2019
Decision Number: 551096

Dear Ms. Smith:

The Agency, in accordance with the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), as amended, has completed reviewing all of the information submitted with your application to support the Registration Review of the above referenced product in connection with the EPTC Interim Decision, and has concluded that your submission is acceptable. The agency also completed review of your amended label referred to above, submitted in connection with registration under FIFRA, as amended, and has determined the label is also acceptable.

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.

A copy of your label stamped "Accepted" is enclosed. Products shipped after 12 months from the date of this amendment must bear the new revised label. Your release for shipment of the product bearing the amended label constitutes acceptance of these conditions. If these conditions are not complied with, the registration will be subject to cancellation in accordance with FIFRA section 6.

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If you have any questions about this letter, please contact Srijana Shrestha by phone at 703-305-6471, or via email at Shrestha.srijana@epa.gov.

Sincerely,

A handwritten signature in blue ink, appearing to be "Linda Arrington", with a stylized flourish at the end.

Linda Arrington, Branch Chief
Risk Management and Implementation Branch 4
Pesticide Re-Evaluation Division
Office of Pesticide Programs

Enclosure

RESTRICTED USE PESTICIDE
Due to Oncogenicity
 For retail sale to and use only by certified applicators or persons under their direct supervision and only for those uses covered by the certified applicator's certification.

IMPERIUM[®]

SELECTIVE HERBICIDE

Preplant incorporated herbicide for weed control (including foxtails, crabgrass, barnyardgrass, and suppression of wooly cup grass, wild proso millet, and field sandbur) in field corn, production seed corn, silage corn, popcorn and sweet corn.

ACTIVE INGREDIENT:

- EPTC: S-ethyl dipropylthiocarbamate 67.8%
- Acetochlor
- 2-chloro-2'-methyl-6'-ethyl-N-ethoxymethylacetanilide 16.9%

OTHER INGREDIENTS: 15.3%
TOTAL 100.0%

Contains 7.0 lbs. active ingredient per gallon
 (5.6 pounds active ingredient per gallon EPTC and 1.4 pounds active ingredient per gallon acetochlor).

KEEP OUT OF REACH OF CHILDREN

WARNING/AVISO

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

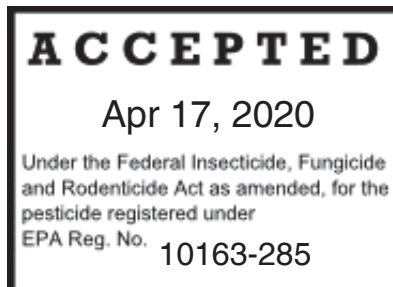
FIRST AID	
If in eyes	<ul style="list-style-type: none"> • Hold eye open and rinse slowly and gently with water for 15-20 minutes. • Remove contact lenses, if present, after the first 5 minutes, then continue rinsing eye. • Call a poison control center or doctor for treatment advice.
If on skin or clothing	<ul style="list-style-type: none"> • Take off contaminated clothing. • Rinse skin immediately with plenty of water for 15-20 minutes. • Call a poison control center or doctor for treatment advice.
If swallowed	<ul style="list-style-type: none"> • Call a poison control center or doctor immediately for treatment advice. • Have person sip a glass of water if able to swallow. • Do not induce vomiting unless told to by a poison control center or doctor. • Do not give anything by mouth to an unconscious person.
If inhaled	<ul style="list-style-type: none"> • Move person to fresh air. • If person is not breathing, call 911 or an ambulance, then give artificial respiration, preferably mouth-to-mouth if possible. • Call a poison control center or doctor for further treatment advice.
NOTE TO PHYSICIAN	
Probable mucosal damage may contraindicate the use of gastric lavage. This product contains EPTC a thiocarbamate that inhibits cholinesterase. If symptoms of cholinesterase inhibition are present, atropine by injection is antidotal. Pralidoxime chloride (2-PAM) is NOT recommended as an antidote for this compound. Thiocarbamates have been shown in laboratory animals to cause a disulfiram (Antabuss) type reaction in combination with alcohol.	
HOT LINE NUMBER	
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.	

PRECAUTIONARY STATEMENTS
HAZARDS TO HUMANS AND DOMESTIC ANIMALS
WARNING/AVISO

Causes substantial but temporary eye injury or skin irritation. Harmful if swallowed or absorbed through the skin. Do not get in eyes, on skin, or on clothing. Wear goggles or face shield. Prolonged or frequently repeated skin contact may cause allergic reactions in some individuals.

NET CONTENTS _____ GALLONS

EPA Reg. No. 10163-285
 EPA Est. No. 100-NE-0001



Produced For:
 Gowan Company
 P.O. Box 5569
 Yuma, AZ 85366-5569

PERSONAL PROTECTIVE EQUIPMENT (PPE)

Some materials that are chemical-resistant to this product are listed below.

Applicators and Other Handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves such as barrier laminate, Nitrile Rubber ≥14 mils, Neoprene Rubber ≥14 mils, and viton ≥14 mils.
- Chemical-resistant apron
- Chemical-resistant footwear and socks
- Protective eyewear

In addition to the above PPE, persons Mixing and Loading into chemigation systems, must wear:

- a NIOSH-approved elastomeric half mask respirator with organic vapor (OV) cartridges; OR a NIOSH-approved full face respirator with OV cartridges; OR a gas mask with OV canisters; OR a powered air purifying respirator with OV cartridges.

In addition to the above PPE, applicator using back-pack sprayers on orchards and vineyards must wear:

- Coveralls worn over long-sleeved shirt and long pants
- Waterproof or chemical-resistant gloves

In addition to the above PPE, applicators applying dry bulk fertilizers with a specialized truck designed to treat more than 80 acres, must wear a NIOSH approved respirator with:

- An organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or
- A canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or
- A NIOSH approved respirator with an (OV) cartridge, or
- A canister with any N,R,P, or HE prefilter

Discard clothing and other absorbent materials that have been drenched or heavily contaminated with this product's concentrate. Do not reuse them. 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

Commercial (for hire) handlers engaged in impregnating this product onto dry bulk fertilizer must:

- Wear the personal protective equipment required for mixers/loaders, except shoes may be substituted for chemical-resistant footwear.
- Have immediately available for use in case of an accident a NIOSH approved respirator with:
 - An organic-vapor removing cartridge with a prefilter approved for pesticides (MSHA/NIOSH approval number prefix TC-23C), or
 - A canister approved for pesticides (MSHA/NIOSH approval number prefix TC-14G), or
 - A NIOSH approved respirator with an (OV) cartridge, or
 - A canister with any N, R, P, or HE prefilter

When other handlers use closed systems or enclosed cabs, in a manner that meets the requirements listed in the Worker Protection Standard (WPS) for agricultural pesticides [40CFR 120.240(d)(4-5), the handler PPE requirements may be reduced or modified as specified in the WPS.

IMPORTANT: When reduced PPE is worn because a closed system is being used, handlers must be provided all PPE specified above for "applicators and other handlers" and have such PPE immediately available for use in an emergency, such as a spill or equipment breakdown.

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.

ENVIRONMENTAL HAZARDS

This chemical is toxic to mammals. Do not contaminate water when disposing of equipment washwaters or rinsate. Do not apply directly to water or to areas where surface water is present or to intertidal areas below the mean high water mark.

NON-TARGET ORGANISM ADVISORY STATEMENT: This product is toxic to plants and may adversely impact the forage and habitat of non-target organisms, including pollinators, in target organisms by following label directions intended to minimize spray drift. Do not contaminate water when cleaning equipment or disposing of equipment washwaters..

Acetochlor demonstrates the properties and characteristics associated with chemicals detected in groundwater. The use of this chemical in areas where soils are permeable, particularly where the groundwater is shallow, may result in groundwater contamination.

Acetochlor has properties that may result in surface water contamination via dissolved runoff and runoff erosion. Practices should be followed to minimize the potential for dissolved runoff and/or runoff erosion.

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. 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, such as barrier laminate or nitrile gloves or neoprene rubber or viton
- Shoes plus socks
- Protective eyewear

FAILURE TO FOLLOW DIRECTIONS AND PRECAUTIONS ON THIS LABEL MAY RESULT IN CROP INJURY, POOR WEED CONTROL, OR ILLEGAL RESIDUES.

PRODUCT INFORMATION

IMPERIUM Selective Herbicide is a selective soil-applied herbicide which must be mixed or incorporated into the soil for control of weeds listed on this label. This herbicide controls weeds by interfering with normal germination and seedling development. It will not control established or germinated weeds present at application.

RESTRICTIONS

Do not apply to the following soils if groundwater depth is 30 feet or less: sand with less than 3% organic matter; loamy sand with less than 2% organic matter; or sandy loam with less than 1% organic matter.

This product may not be mixed or loaded within 50 feet of any wells (including abandoned wells and drainage wells), sink holes, perennial or intermittent streams and rivers, and natural or impounded lakes and reservoirs. This setback does not apply to properly capped or plugged abandoned wells and does not apply to impervious pad or properly diked mixing/loading areas.

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 rainwater 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 site.

States may have in effect additional requirements regarding wellhead setbacks and operational containment.

Do not apply this product through any type of irrigation system.

Do not use flood irrigation to apply or incorporate this product.

Product must be used in a manner which will prevent back siphoning in wells, spills, or improper disposal of excess pesticide, spray mixtures, or rinsates.

Do not apply under conditions which favor runoff or wind erosion of soil containing this product to nontarget areas. To prevent off-site movement due to runoff or wind erosion:

- Avoid treating powdery dry or light sandy soils when conditions are favorable for wind erosion. Under these conditions, the soil surface must first be settled by rainfall or irrigation.
- Do not apply to impervious substrates such as paved or highly compacted surfaces or frozen or snow-covered soils.
- Do not use tailwater from the first flood or furrow irrigation of treated fields to treat nontarget crops unless at least ½ inch of rainfall has occurred between application and the first irrigation.

Do not apply this product using aerial application equipment.

Do not apply when wind conditions favor drift to nontarget sites. To minimize spray drift to nontarget areas:

- Use low-pressure application equipment capable of producing a large droplet spray.
- Do not use nozzles that product a fine droplet spray.
- Minimize drift by using sufficient spray volume to ensure adequate coverage with large droplet size sprays.
- Keep ground-driven spray boom as low as possible above the target surface.
- Make application when the wind velocity favors on-target product deposition (approximately 3 to 10 mph). Do not apply when wind velocity exceeds 15 mph. Avoid application when gusts approach 15 mph.

Low humidity and high temperatures increase the likelihood of spray drift to sensitive areas. Avoid spraying during conditions of low humidity and/or high temperatures. Do not apply during inversion conditions.

WEED RESISTANCE MANAGEMENT

For resistance management, please note that Eptam 7E is a Group 8 herbicide. Any weed population may contain or develop plants naturally resistant to Eptam 7E and Group 8 herbicides. The resistant biotypes may dominate the weed population if these herbicides are used repeatedly in the same field. Appropriate resistance-management strategies should be followed.

Best Management Practices

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

- Rotate the use of Eptam 7E or other Group 8 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.
- 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 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 Gowan Company representative.

PRECAUTIONS

DO NOT APPLY THIS PRODUCT USING AERIAL APPLICATION EQUIPMENT

DO NOT APPLY THIS PRODUCT USING BACKPACK SPRAYER EXCEPT FOR ORCHARDS AND VINEYARDS

Do not apply at a rate of more than 0.31 lbs ai/gallon when using a backpack sprayer on orchards and vineyards

Read all label directions before using.

- If crop treated with this product is lost, corn may be replanted immediately. Do not make a second application of IMPERIUM Selective Herbicide.
- IMPERIUM Selective Herbicide can be stored at temperatures as low as minus 25°F.
- IMPERIUM Selective Herbicide should be used for labeled purposes and at labeled rates. Do not overdose.
- IMPERIUM Selective Herbicide is recommended for use only on mineral soils (those soils containing less than 10% organic matter).
- IMPERIUM Selective Herbicide may be used on production seed corn.
- IMPERIUM Selective Herbicide should not be stored near seeds or fertilizers.
- All containers of IMPERIUM Selective Herbicide should be kept tightly closed when not in use.
- IMPERIUM Selective Herbicide will not harm the treated crop nor leave harmful soil residues past harvest when applied properly and environmental conditions exist for normal plant growth during the season.
- Adverse conditions such as unusually cold and wet or hot and dry weather during germination and early growth; insect, nematode, or plant disease attack; carryover soil residues of persistent herbicides; or use of certain soil-applied systemic insecticides can create abnormal conditions that weaken crop seedlings. IMPERIUM Selective Herbicide used under these conditions could result in crop injury.
- Continuous use of IMPERIUM Selective Herbicide in the same fields consecutively year after year can in some areas lead to a decrease in the level of performance. As a precaution, IMPERIUM Selective Herbicide treated fields should be rotated with another crop or herbicide classification on an annual program.
- **ROTATIONAL CROPS:** Corn, soybeans, sorghum, tobacco, alfalfa, barley, buckwheat, clover, dry beans (includes adzuki, kidney, lima, navy, pinto), guar, kudzu, lentil, lespedeza, lupin (includes grain, white, white sweet), millet (pearl or proso), oats, pea (includes blackeyed, chick, cow, Crowder, field, pigeon, Southern), potatoes, rye, sorghum, soybeans, sugar beets, sunflower, trefoil, tobacco, triticale, vetch or wild rice may be planted the spring following application. Wheat may be planted 4 months after application. Approved rotational crop list does not include any species of succulent beans and peas.

Restrictions:

- Do not use this product on any crop other than corn.
- Do not use IMPERIUM Selective Herbicide on corn seed stock such as Breeders, Foundation, or Increase.
- Do not use IMPERIUM Selective Herbicide on sorghum or milo.
- Do not allow IMPERIUM Selective Herbicide to contaminate water to be used on susceptible crops and ornamentals, or for domestic purposes.
- Do not allow IMPERIUM Selective Herbicide to contaminate feed or food.

SPRAY DRIFT

Ground Boom Applications:

- Apply with the nozzle height recommended by the manufacturer, but no more than 4 ft. above the ground or crop canopy.
- Applicators are required to use a medium or coarser droplet size (ASABE S572.1).
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions.

Boom-less Ground Applications:

- Applicators are required to use a Medium or coarser droplet size (ASABE S572.1) for all applications.
- Do not apply when wind speeds exceed 15 miles per hour at the application site.
- Do not apply during temperature inversions."

SPRAY DRIFT ADVISORIES

THE APPLICATOR IS RESPONSIBLE FOR AVOIDING OFF-SITE SPRAY DRIFT.

BE AWARE OF NEARBY NON-TARGET SITES AND ENVIRONMENTAL CONDITIONS.

IMPORTANCE OF DROPLET SIZE

An effective way to reduce spray drift is to apply large droplets. Use the largest droplets that provide target pest control. While applying larger droplets will reduce spray drift, the potential for drift will be greater if applications are made improperly or under unfavorable environmental conditions.

Controlling Droplet Size – Ground Boom

- Volume - Increasing the spray volume so that larger droplets are produced will reduce spray drift. Use the highest practical spray volume for the application. If a greater spray volume is needed, consider using a nozzle with a higher flow rate.
- Pressure - Use the lowest spray pressure recommended for the nozzle to produce the target spray volume and droplet size.
- Spray Nozzle - Use a spray nozzle that is designed for the intended application. Consider using nozzles designed to reduce drift.

BOOM HEIGHT – Ground Boom

For ground equipment, the boom should remain level with the crop and have minimal bounce.

SHIELDED SPRAYERS

Shielding the boom or individual nozzles can reduce spray drift. Consider using shielded sprayers. Verify that the shields are not interfering with the uniform deposition of the spray on the target area.

TEMPERATURE AND HUMIDITY

When making applications in hot and dry conditions, use larger droplets to reduce effects of evaporation.

TEMPERATURE INVERSIONS

Drift potential is high during a temperature inversion. Temperature inversions are characterized by increasing temperature with altitude and are common on nights with limited cloud cover and light to no wind. The presence of an inversion can be indicated by ground fog or by the movement of smoke from a ground source or an aircraft smoke generator. Smoke that layers and moves laterally in a concentrated cloud (under low wind conditions) indicates an inversion, while smoke that moves upward and rapidly dissipates indicates good vertical air mixing. Avoid applications during temperature inversions.

WIND

Drift potential generally increases with wind speed. AVOID APPLICATIONS DURING GUSTY WIND CONDITIONS.

Applicators need to be familiar with local wind patterns and terrain that could affect spray drift.

Boom-less Ground Applications:

- Setting nozzles at the lowest effective height will help to reduce the potential for spray drift.

APPLICATION DIRECTIONS

Carriers

Liquids - Either water or fluid fertilizers such as solutions, slurries or suspensions may be used as liquid carriers. If fluid fertilizers are used, a physical compatibility with these must be done before combining in the spray tank. See Appendix I for details of the compatibility testing procedure. Even if IMPERIUM Selective Herbicide is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

Dry Bulk Fertilizer - IMPERIUM Selective Herbicide may be impregnated on dry bulk fertilizer and applied as the fertilizer is spread.

Bulk fertilizer impregnated with IMPERIUM Selective Herbicide should be applied immediately, not stored.

It is recommended that all bulk containers be tightly covered while the product is being transported and applied to reduce probability of EPTC loss via volatilization.

When application and incorporation are done in separate operations, impregnated fertilizer must be incorporated on the same day as applied.

When separate operations delay incorporation, applications must be made on a soil surface dry to ½ inch deep and free from dew and incidental moisture.

See APPENDIX II and consult your local dealer for details including what fertilizers are compatible.

Adding to Spray Tank

If IMPERIUM Selective Herbicide is used alone:

Add the labeled amount to a clean (thoroughly rinsed and decontaminated) spray tank before it is half filled so that addition of the remaining water or fluid fertilizer carrier can aid in the thorough agitation and mixing of the spray solution.

If a tank mixture is used:

See specific directions under the "TANKMIX COMBINATIONS" of this label.

Volume

Apply in 10 to 60 gallons of water or fluid fertilizers per acre using a properly calibrated sprayer having good agitation.

Pressure

Use 20 to 40 psi to ensure good distribution in the spray pattern.

Soil Moisture and Tillth

Improper incorporation or poor tillth such as large clods may result in erratic or unsatisfactory weed control.

The soil should be dry enough to permit good soil mixing or incorporation.

Any application of IMPERIUM Selective Herbicide that is not immediately incorporated in the same operation must be made to a soil surface dry to at least ½ inch deep and free from dew and incidental moisture.

Incorporation Timing

Application and incorporation should be done in the same operation when possible.

Applications in water or fluid fertilizers must not have more than a 4-hour delay between application and incorporation.

When application and incorporation are separate operations in the semi-arid areas of Eastern Washington, Eastern Oregon and Idaho, IMPERIUM Selective Herbicide must be incorporated the same day as applied. See "SOIL MOISTURE AND TILTH"

IMPERIUM Selective Herbicide impregnated on dry bulk fertilizer must be incorporated on the same day as application. See "SOIL MOISTURE AND TILTH."

Incorporation Equipment and Methods

IMPERIUM Selective Herbicide must be incorporated into the soil to prevent loss of the herbicide.

Field Cultivator: Use on soils in good tillth. Equip with 3 to 4 rows of sweeps spaced at 7 inches or less and staggered from row to row to leave no soil unturned or undisturbed. Set the field cultivator to cut 4 inches deep. Operate at 6 mph or more. Follow by a harrow or leveling device. Chisel plows or point should not be used. If field sandbur, wild proso millet, and/or woolly cup grass are present, use two passes to improve control.

Tandem Disk: Can be used on all soil types. Set disc to cut 4 inches deep. Operate disc at 4 to 6 mph. Follow disc by a harrow or leveling device slightly wider than that of the disc. Two passes in different directions will improve incorporation. On the second pass the disc should be operated 1 inch shallower than on the first pass. If field sandbur, wild proso millet, and/or woolly cup grass are present, a second incorporation will improve control or suppression.

Sprinkler Irrigation: Do not apply IMPERIUM Selective Herbicide by sprinkler irrigation. Use a sprinkler system only to incorporate IMPERIUM Selective Herbicide after applying by ground equipment as follows:

In the semi-arid areas of eastern Washington, eastern Oregon, and Idaho, IMPERIUM Selective Herbicide may be surface-applied immediately after planting. See "SOIL MOISTURE AND TILTH."

The IMPERIUM Selective Herbicide can then be incorporated, using ½ to ¾ inch of water within 36 hours following application.

The application and incorporation must be done within 5 days after the last tillage operation since poor results will occur if weeds have germinated.

PLANTING

Planting should occur as soon as possible after application and always within 2 weeks after treatment.

Plant seed to a maximum depth of 2 inches.

Avoid moving or shaping soil after incorporation since this can remove IMPERIUM Selective Herbicide from the row and result in a loss of weed control.

CULTIVATION

Should weeds develop, a shallow cultivation or rotary hoeing will generally result in better weed control.

A shallow cultivation is less than ½ the depth of incorporation.

WEEDS CONTROLLED AND USE RATES

Consult "TABLE 1" and "TABLE 2." **NOTE COMMENTS AND RESTRICTIONS IN "TABLE 1" AND "TABLE 2."**

Table 1.

BROADCAST RATE (Pints) OF IMPERIUM SELECTIVE HERBICIDE PER ACRE

The annual broadleaf weeds listed below will be controlled only if treatment is made when conditions are favorable for weed seed germination and growth. Under prolonged conditions of very cold soil, control of the listed broadleaf weeds may not be adequate.

Annual Grass and Broadleaf Weeds	Scientific Name	U.S. (Except CA, AZ, FL)	C=Control PC=Partial Control	Comments and Restrictions
Barnyardgrass (Watergrass)	<i>Echinochloa spp.</i>	4.5 to 7	C	GENERAL
Foxtail, Giant	<i>Setaria Faberi</i>	4.5 to 7	C	
Foxtail, Green	<i>Setaria viridis</i>	4.5 to 7	C	Use the lower rate for light infestations and coarse textured soils.
Foxtail, Yellow	<i>Setaria lutescens</i>	4.5 to 7	C	
Crabgrass	<i>Digitaria spp.</i>	4.5 to 7	C	Do not exceed 8 pints per acre per year.
Panicum, Fall	<i>Panicum dichotomiflorum</i>	4.5 to 7	C	
Lambsquarters, Common	<i>Chenopodium album</i>	5 to 7	C	When IMPERIUM Selective Herbicide is used in the southeastern U. S. on silage corn, do not seed small grains until September.
Nightshade, Black	<i>Solanum nigrum</i>	5 to 7	C	
Nightshade, Hairy	<i>Solanum sarachoides</i>	5 to 7	C	
Pigweed, Redroot (Common)	<i>Amaranthus retroflexus</i>	5 to 7	C	When furrow irrigation is used on flat planted corn on the western slope of Colorado, do not form furrows until corn is in the three-leaf stage.
Tall Waterhemp	<i>Amaranthus spp.</i>	5 to 7	C	
Field Sandbur ¹	<i>Cenchrus pauciflorus</i>	6 to 8	PC	Soils lacking enough moisture for seed germination must be pre-irrigated prior to IMPERIUM Selective Herbicide application.
Wild Proso Millet ¹	<i>Panicum miliaceum</i>	6 to 8	PC	
Woolly Cupgrass ¹	<i>Eriochloa viridis</i>	6 to 8	PC	
Volunteer Barley	<i>Hordeum vulgare</i>	5 to 7	PC	
Volunteer Oats	<i>Avena sativa</i>	5 to 7	PC	
Volunteer Wheat	<i>Triticum aestivum</i>	5 to 7	PC	
Wild Oats	<i>Avena Fatua</i>	5 to 7	C	

¹ Double incorporate to improve control.

For band applications, calculate the amount to be applied per acre as follows:

Table 2.

Band width in inches		Rate per acre for a	=	Amount needed
Row width in inches	X	broadcast treatment		for a band treatment

TANKMIX COMBINATIONS

Balance® Herbicide Combinations

See Balance label for Balance use rates. Not labeled in all states. Please refer to the Balance label for precautionary statements, directions for use, and geographic and other restrictions. Refer to IMPERIUM Selective Herbicide use rate section for minimum IMPERIUM Selective Herbicide use rates.

AtrazineE® Herbicide Combinations

For control of additional weeds and increased control of labeled broadleaf weeds, Atrazine may be tank mixed and applied preplant incorporated with labeled use rates of IMPERIUM Selective Herbicide.

Do not apply Atrazine through any irrigation system.

Atrazine combinations may be impregnated on dry bulk fertilizer. See "APPENDIX II" and consult your local dealer for details including what fertilizers are compatible.

As an alternative, Atrazine at labeled rates may be applied pre emergence to the soil surface following a preplant incorporated treatment of IMPERIUM Selective Herbicide at labeled rates.

If a preemergence application of Atrazine is used, consult the directions on the Atrazine label.

A preemergence application of Atrazine may require a rotary hoeing or shallow cultivation if rainfall or sprinkler irrigation has not occurred within 10 days of the surface application.

PRECAUTIONS FOR ATRAZINE

Follow all the use precautions and warnings that appear on the Atrazine labels and supplemental literature.

Make only one application per crop.

After a treatment of Atrazine, do not plant any crop except corn until the following year or injury may occur.

CARRIERS

Liquids – The tank mix combinations may be applied, using the same liquid carriers as IMPERIUM Selective Herbicide used alone. If fluid fertilizers are used, a physical compatibility with these must be done before combining in the spray tank. See "APPENDIX I" for details of the compatibility

testing procedure. Even if the tankmix is physically compatible with a fluid fertilizer, constant agitation is necessary to maintain a uniform mixture during application.

Dry Bulk Fertilizer – Tankmixes with Atrazine combinations may be impregnated on dry bulk fertilizer. Follow all directions and precautions listed on this label under IMPERIUM Selective Herbicide applied alone on impregnated dry bulk fertilizer.

ADDING TO SPRAY TANK

It is recommended that the compatibility of any tankmix combination be tested on a small scale, such as a jar test, before actual tank mixing. See “APPENDIX I” for details on the procedure for such a test.

Fill a thoroughly rinsed and decontaminated spray tank 2/3 full of clean water.

Start and continue moderate agitation throughout mixing. Excessive agitation may cause the Atrazine to settle out and set up in the spray tank.

All return lines to the spray tank must discharge below liquid level.

For some combinations, premixing wettable powders in a little water in a pail or bucket before adding them to the spray tank will improve the compatibility of the final mixture.

Premix the Atrazine, making sure it is thoroughly wetted and dispersed in the tank before adding the IMPERIUM Selective Herbicide.

Add the IMPERIUM Selective Herbicide to the tank that is 2/3 full of water already mixed with the approved tankmix products and continue filling tank.

The tankmix combinations should not be let in the spray tank for prolonged periods. Batches should be mixed and applied the same day.

VOLUME

Apply all tankmixes in 20 to 60 gallons of liquid per acre.

PRESSURE

Use 20 to 40 psi to ensure good distribution in the spray pattern.

SOIL MOISTURE AND TILTH

Same as for IMPERIUM Selective Herbicide alone.

INCORPORATION TIMING

Same as for IMPERIUM Selective Herbicide alone.

INCORPORATION EQUIPMENT AND METHODS

Same as for IMPERIUM Selective Herbicide alone.

Do not apply IMPERIUM Selective Herbicide or Atrazine through a center pivot sprinkler irrigation system.

PLANTING

Same as for IMPERIUM Selective Herbicide alone.

CULTIVATION

Same as for IMPERIUM Selective Herbicide alone.

Banvel®, 2,4-D, and other herbicides:

A sequential application of 2,4-D, Banvel, Clarity®, Marksman®, Buctril®, Buctril/Atrazine, Basagran®, Laddock®, or other preemergence or postemergence herbicides may be necessary to control weeds not controlled by IMPERIUM Selective Herbicide.

WEEDS CONTROLLED AND USE RATES

Table 2.

TANKMIXES WITH ATRAZINE

IMPERIUM Selective Herbicide plus Atrazine tankmixes will control the additional weeds listed below and under unfavorable conditions, improve the control of broadleaf weeds listed in “TABLE I” Please refer to Atrazine label for rates and weeds controlled.

Additional Weeds Controlled with Tankmix Combinations	Scientific Name	C=Control PC=Partial Control
Cocklebur, Common	<i>Xanthium pensylvanicum</i>	PC
Jimsonweed	<i>Datura stramonium</i>	C
Kochia	<i>Kochia scoparia</i>	C
Mustard	<i>Brassica spp.</i>	C
Ragweed	<i>Ambrosia spp.</i>	C
Smartweed	<i>Polygonum spp.</i>	C
Thistle, Russian	<i>Salsola ibericus</i>	C
Velvetleaf	<i>Abutilon theophrasti</i>	C
Witchgrass	<i>Panicum capillare</i>	C

APPENDIX I

Procedure for Testing the Compatibility of IMPERIUM Selective Herbicide with Fluid Fertilizers and Tankmix Combinations

The following procedure is suggested for determining whether or not IMPERIUM Selective Herbicide may be combined with a specific fluid fertilizer or tankmix herbicide for spray tank application.

MATERIALS REQUIRED:

1. IMPERIUM Selective Herbicide.
2. Fluid fertilizer and tankmix herbicides.

3. Adjuvant for spray tankmix combinations: Use any adjuvant cleared for use on growing crops under 40CFR 180.1001 to improve the compatibility of IMPERIUM Selective Herbicide. The adjuvant which provides the best emulsification depends on the specific herbicide under consideration.
4. Two 1-quart, wide-mouth glass jars with lid or stopper.
5. Measuring spoons. A 25 ml pipette or graduated cylinder provides more accurate measurement.
6. Measuring cup, 8 ounces (237 ml.)

PROCEDURE:

Pour a pint or about 473 ml of the fluid fertilizer or water into each of the quart jars. Add adjuvant to one of the jars and mix. Two ml or 2/5 of teaspoon of adjuvant added to 1 pint of fluid fertilizer or water will equal 3 pints of adjuvant per 100 gallons of fluid fertilizer or water.

If a tankmix is being tested, premix the wetttable powders in 1/8 cup of water prior to addition to the pint of fluid fertilizer or water.

Add IMPERIUM Selective Herbicide to both jars. See "TABLE 3" for rate to use.

Close both jars with lid or stopper and mix the contents by turning the jars upside down 10 times.

Inspect the surface and body of the mixtures:

- Immediately after completing the jar inversions.
- After allowing the jars to stand quietly for 30 minutes.
- Add then again after turning the jars upside down 10 times after the 30-minute wait.

EVALUATION:

- If a uniform mixture cannot be made, the mixture should not be used.
- If either mixture remains uniform for 30 minutes, the combination may be used.
- Should either mixture separate after 30 minutes, but readily remixes uniformly with 10 jar inversions, the mixture can be used if adequate agitation is maintained in the tank.
- If the mixture with adjuvant is satisfactory, but the one without adjuvant is not, be sure to use the adjuvant in the spray tank.
- If adjuvant is needed, add it first at a rate of 3 pints per 100 gallons of fluid fertilizer or water.
- Foaming can be minimized by using moderate agitation.
- If nondispersible oil, sludge, or clumps of solids form in the mixture, the combination should not be used.

**Table 3.
IMPERIUM SELECTIVE HERBICIDE COMPATIBILITY TESTS**

Gallons of Fluid Fertilizer to be Applied per Acre	Amount of Adjuvant to Add to the 1 Pint of Liquid		ml or Teaspoon to be Added to 1 Pint of Liquid for the IMPERIUM Selective Herbicide Rate Listed Below							
			4 Pints		5 Pints		6 Pints		7 Pints	
			ml	Tsp.	ml	Tsp.	ml	Tsp.	ml	Tsp.
10	2	2/5	22.0	4 2/5	28.0	5 3/5	35.0	7	42.0	8 2/5
15	2	2/5	16.0	3 1/5	20.0	4	25.0	5	30.0	6
20	2	2/5	13.0	2 3/5	16.0	3 1/5	20.0	4	24.0	4 4/5
25	2	2/5	9.0	1 4/5	12.0	2 2/5	15.0	3	18.0	3 3/5
30	2	2/5	6.0	1 1/5	8.0	1 3/5	10.0	2	12.0	2 2/5
40	2	2/5	6.0	1 1/5	8.0	1 3/5	10.0	2	12.0	2 2/5

APPENDIX II

Impregnation on Dry Bulk Fertilizers

Consult your local dealer for more details.

IMPERIUM Selective Herbicide alone and tankmix combinations with Atrazine may be impregnated on dry bulk fertilizer.

Caution: IMPERIUM Selective Herbicide alone and in combination tankmixes must not be impregnated on ammonium nitrate, potassium nitrate, or sodium nitrate fertilizers. Such mixtures may cause explosion and fire.

All individual State regulations relating to dry bulk fertilizer blending, registration, labeling, and application are the responsibility of the individual and/or company selling the herbicide and fertilizer mixtures.

**Table 4.
APPROVED DRY BULK FERTILIZER INGREDIENTS FOR USE WITH IMPERIUM SELECTIVE HERBICIDE ALONE**

Fertilizer Ingredient	N	P	K
Ammonium Sulfate	21	0	0
Diammonium Phosphate	18	46	0
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Super-phosphate (single)	0	20	0
Super-phosphate (triple)	0	46	0
Urea*	45	0	0
Ammonium Phosphate-sulfate	16	20	0
K-Mag/Sul-Po-Mag	0	0	21
Monoammonium Phosphate	11	48	0

*Some ureas may be phytotoxic when high rates are applied to corn. Use only urea rates known to be safe for corn application.

**Table 5.
APPROVED DRY BULK FERTILIZER INGREDIENTS FOR USE WITH IMPERIUM SELECTIVE HERBICIDE IN TANKMIX COMBINATIONS WITH ATRAZINE**

Fertilizer Ingredient	N	P	K
Ammonium Sulfate	21	0	0

Diammonium Phosphate	18	46	0
Potassium Chloride	0	0	60
Potassium Sulfate	0	0	52
Super-phosphate (single)	0	20	0
Super-phosphate (triple)	0	46	0
Urea*	45	0	0
Ammonium Phosphate-sulfate	16	20	0
K-Mag/Sul-Po-Mag	0	0	21
Monoammonium Phosphate	11	48	0

*Some areas may be phytotoxic when high rates are applied to corn.

Use only urea rates known to be safe for corn application.

Do not combine IMPERIUM Selective Herbicide plus Atrazine 4L or 80W with 0-20-0 or 0-46-0.

Uniform impregnation of the herbicides on dry bulk fertilizer particles and uniform application in the field are necessary to ensure good results.

A minimum of 200 and a maximum of 1200 pounds of approved impregnated ingredients from "TABLE 5" and "TABLE 6" must be applied per acre.

Use a closed rotary drum mixer or similar type of closed blender equipped with suitable spray equipment.

The spray nozzle should be positioned inside of the mixer to provide uniform spray coverage of the tumbling fertilizer and provide a uniform fine spray pattern.

Tankmix combinations may be added separately or mixed in the proposed use ratio in a uniform slurry for joint spray impregnation.

Physical properties of fertilizers vary in liquid absorptive capacity. When absorptivity is sufficient, simple spray impregnation of the fertilizer with the herbicides provides a satisfactory, dry mixture.

When the absorptive capacity is not adequate, use of a drying agent is required to provide dry, free-flowing mixtures.

Drying agent for spinning-disc applicators are:

Micro-Cel® E calcium silicate powder

Drying agents for pneumatic applicators:

Drying agents should be added separately and uniformly to the previously impregnated herbicide-fertilizer mixture to insure that the mixture is free-flowing. Generally the following amounts are sufficient.

Micro-Cel® E calcium silicate powder

less than 2% by weight

Agsorb® 16/30 RVM-MS granular clay

less than 5% by weight

Celatom® MP-79

less than 5% by weight

The amount of IMPERIUM Selective Herbicide, and Atrazine, actually required in the manufacture of individual fertilizer mixtures should be determined carefully for each production operation (see "TABLE 6") This is necessary to ensure that the amount of herbicide actually contained in the mixture applied to the soil represents the correct use rate.

PHYSICAL DATA

Specific Gravity: 0.99 at 68° F (20° C)

Pounds/Gallon: 8.27 at 58° F (20° C)

Flashpoint: >200°F

Viscosity: Sprayable down to minus 20°F/-29°C

Table 6.

Impregnation of Dry Bulk Fertilizer – IMPERIUM Selective Herbicide and Atrazine Amounts Needed per ton of Fertilizer

Fertilizer Rate per Acre	IMPERIUM Selective Herbicide			Atrazine 4L		Atrazine 80W	
	4 pints/A	5 pints/A	6 pints/A	2 pints/A	3 pints/A	1 ¼ lbs./A	2 lbs./A
200	20 qts.	25 qts.	30 qts.	10 qts.	15 qts.	12 ½ lbs.	20 lbs.
300	13 1/3 qts.	16 2/3 qts.	20 qts.	6 2/3 qts.	10 qts.	8 1/3 lbs.	13 1/3 lbs.
400	10 qts.	12 ½ qts.	15 qts.	5 qts.	7 ½ qts.	6 ¼ lbs.	10 lbs.
500	8 qts.	10 qts.	12 qts.	4 qts.	6 qts.	5 lbs.	8 lbs.
600	6 2/3 qts.	8 ¼ qts.	10 qts.	3 1/3 qts.	5 qts.	4 1/5 lbs.	6 2/3 lbs.
700	5 ¾ qts.	7 ¼ qts.	8 ½ qts.	2 7/8 qts.	4 ¼ qts.	3 2/3 lbs.	5 3/5 lbs.

STORAGE AND DISPOSAL

Do not contaminate water, food, or feed by storage or and disposal. Open dumping is prohibited.

PESTICIDE STORAGE: Keep container tightly closed when not in use. Do not store near seeds, fertilizers or foodstuffs. Can be stored at temperatures as low as minus 25°F.

PESTICIDE DISPOSAL: Pesticide wastes are toxic. Improper disposal of excess pesticide, spray mixture, or rinsate is a violation of Federal law. If these wastes cannot be disposed of by use according to label instructions, contact your State Pesticide or Environmental Control Agency or the Hazardous Waste Representative at the nearest EPA Regional Office for guidance.

CONTAINER DISPOSAL: Nonrefillable container. Do not reuse or refill this container. Offer for recycling, if available.

FOR BULK CONTAINERS

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

CONTAINER PRECAUTIONS: Before refilling, inspect thoroughly for damage such as cracks, punctures, bulges, dents, abrasions, and damaged or worn threads on closure devices.

REFILL ONLY WITH IMPERIUM Selective Herbicide. The contents of this container cannot be completely removed by cleaning. Refilling with materials other than IMPERIUM Selective Herbicide will result in contamination and may weaken container.

After filling and before transporting, check for leaks. Do not refill or transport damaged or leaking container.

CONTAINER IS NOT SAFE FOR FOOD, FEED, OR DRINKING WATER!

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 recommendations 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 are assumed by the Buyer and User.

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