

PYRIDATE GROUP 6 HERBICIDE



# TOUGH<sup>®</sup> 5EC

## Herbicide

For the selective control of emerged annual broadleaf weeds in Field Corn, Seed Corn, Popcorn, Chickpea (Garbanzo beans), Lentils and Mint.

**ACTIVE INGREDIENT:**

Pyridate\* (Carbonothioic acid, O-(6-chloro-3-phenyl-4-pyridiziny) S-octyl ester):..... 56.07%

**OTHER INGREDIENTS:** ..... 43.93%

**TOTAL:** ..... 100.00%

\*Contains 5 lbs of pyridate per gallon of product

### 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.)

READ THE LABEL AND ATTACHED BOOKLET BEFORE USING

See Inside Booklet or Back Panel for First Aid Statement  
See Inside Booklet for Directions for Use

For Chemical Emergency, Spill, Leak, Fire, Exposure or Accident  
Call CHEMTREC Day or Night 1-800-424-9300

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EPA REG. NO. 91746-5

**Produced For:**

Belchim Crop Protection N.V./S.A.  
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Belgium

**Distributed By:**



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<b>FIRST AID</b>	
<b>IF IN EYES</b>	<ul style="list-style-type: none"> <li>• Hold eye open and rinse slowly and gently with water for 15 to 20 minutes.</li> <li>• Remove contact lenses, if present, after the 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</b>	<ul style="list-style-type: none"> <li>• Take off contaminated clothing.</li> <li>• Rinse skin immediately with plenty of water for 15 to 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>• Immediately call a poison control center or doctor.</li> <li>• Do not induce vomiting unless told to do so by a poison control center or doctor.</li> <li>• Do not give any liquid to the person.</li> <li>• Do not give anything by mouth to an unconscious person.</li> </ul>
<b>NOTE TO PHYSICIAN</b>	
Contains petroleum distillate. Vomiting may cause aspiration pneumonia.	
Have the product container or label with you when calling a poison control center or doctor, or going for treatment. You may also contact (800) 424-9300 for emergency medical treatment information.	
<b>HOTLINE NUMBER</b>	
For Hazardous Materials or Dangerous Goods Incident Spill, Leak, Fire, Exposure, or Accident Call CHEMTREC Day or Night 1-800-424-9300	

**ATTENTION**

Although this label may appear similar to the label on a product you may have used, there may be important label differences. Users must read, understand and strictly follow all label directions, precautions and restrictions. It is the user's responsibility to be sure the product is approved for sale or use on the intended crop and for use in the specific geographic area. It is the user's responsibility to be aware of and to follow all State or local precautions or restrictions not appearing on this product label. Prior to purchase or use of this product, read the Conditions of Sale and Limitation of Warranty and Liability of this label. If the terms and conditions are unacceptable, return the product immediately in the original and unopened container.

## PRECAUTIONARY STATEMENTS

### Hazards to Humans and Domestic Animals

#### WARNING/AVISO

Causes substantial but temporary eye injury. Causes skin irritation. Harmful if absorbed through skin. Harmful if swallowed. Do not get in eyes, on skin, or on 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. Remove and wash contaminated clothing before reuse.

#### Personal Protective Equipment (PPE)

##### Applicators and other handlers must wear:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, made of barrier laminate or butyl rubber  $\geq$  14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear
- When mixing and loading, wear a chemical-resistant apron.

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.

#### User Safety Recommendations

Users should:

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

Do not apply directly to water, or to areas where surface water is present or to intertidal areas below the mean high water mark. Do not contaminate water when disposing of equipment wash water or rinsate.

#### Surface Water Advisory:

This product may impact surface water quality due to runoff of rain water. This is especially true for poorly draining soils and soils with shallow ground water.

This product is classified as having high potential for reaching aquatic sediment via runoff for several days after application. 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 loading of pyridate from runoff water and sediment. Runoff of this product will be reduced by avoiding applications when rainfall or irrigation is expected to occur within 48 hours. Sound erosion control practices will reduce this product's potential to reach aquatic sediment via runoff.

#### Physical or Chemical Hazards

**Flammable.** Keep away from heat and open flame.

## **DIRECTIONS FOR USE**

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

Do not apply this product in a way that will contact workers or other persons, either directly or through drift. Only protected handlers may be in the area during application. For any requirements specific to your State or Tribe, consult the agency responsible for pesticide regulation.

### **AGRICULTURAL USE REQUIREMENTS**

Use this product only in accordance with its labeling and with the Worker Protection Standard, 40 CFR part 170. This Standard contains requirements for the protection of agricultural workers on farms, forests, nurseries, and greenhouses, and handlers of agricultural pesticides.

It contains requirements for training, decontamination, notification, and emergency assistance. It also contains specific instructions and exceptions pertaining to the statements on this label about personal protective equipment (PPE) and restricted-entry interval. The requirements in this box only apply to uses of this product that are covered by the Worker Protection Standard.

**Do not enter or allow worker entry into treated areas during the restricted-entry interval (REI) of 12 hours.**

PPE required for early entry to treated areas that is permitted under the Worker Protection Standard and that involves contact with anything that has been treated, such as plants, soil, or water is:

- Long-sleeved shirt and long pants
- Chemical-resistant gloves, made of barrier laminate or butyl rubber  $\geq$  14 mils
- Chemical-resistant footwear plus socks
- Protective eyewear

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

## **PRODUCT INFORMATION**

TOUGH® 5EC HERBICIDE is an emulsifiable concentrate formulation containing 5 lbs. of pyridate per gallon of product.

TOUGH® 5EC is a selective herbicide for the control or suppression of actively growing emerged broadleaf weeds in Field Corn, Seed Corn, Popcorn, Chickpea (Garbanzo beans), Lentils and Mint. Use TOUGH® 5EC sequentially and/or tank mixed with other herbicides as part of a complete weed control program. 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:

- TOUGH® 5EC is not effective for the control of most grass weeds. Postemergence grass herbicides can be tank mixed with Tough® 5 EC to provide broad spectrum weed control in corn (see appropriate section of label for this information).
- TOUGH® 5EC can be used in combination with a burndown herbicide, prior to planting, to provide added burndown and residual weed control in field corn.

TOUGH® 5EC is a contact herbicide which is absorbed rapidly by the leaves of plants. TOUGH® 5EC does not offer any residual weed control. Therefore, weeds must have emerged at the time of application. Sensitive weeds show symptoms of marginal yellowing which is then followed by yellowing and browning of the entire leaf within 4-10 days after application. The speed of action is increased at higher temperatures and under good growing conditions. Weed control may be decreased under adverse conditions such as drought, low temperatures, etc. Under good conditions, TOUGH® 5EC is rainfast within 60 minutes following the application.

### **RESISTANCE MANAGEMENT**

TOUGH® 5EC is a Group 6 Herbicide (containing the active ingredient pyridate).

For resistance management, TOUGH® 5EC is a Group 6 herbicide. Any weed population may contain or develop plants naturally resistant to TOUGH® 5EC and other Group 6 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.

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

- Rotate the use of TOUGH® 5EC or other Group 6 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 a 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 Belchim Crop Protection at 855-445-7990 or at [www.belchimusa.com](http://www.belchimusa.com).

## **INTEGRATED PEST (WEED) MANAGEMENT**

TOUGH® 5EC should be integrated into an overall weed and pest management strategy whenever the use of a herbicide is required. Practices known to reduce weed development (tillage, crop competition) and herbicide use (weed scouting, proper application timing, banding) should be followed wherever possible. Consult local agricultural and weed authorities for additional IPM strategies established for your area.

### **USE PRECAUTIONS**

- The temperature of the diluted spray solution and air should be above 50°F at spraying
- Overdosing (spray boom overlap) and spray drift should be avoided
- Do not apply to crops under stress e.g. from drought, nutrient deficiency or where a previous treatment has de-waxed the leaves

### **SPRAY DRIFT DIRECTIONS**

Do not allow spray to drift onto adjacent land or crops. When drift may occur, do everything possible to reduce spray drift, including:

- Do not spray if wind speeds are gusty or become 10 mph or greater.
- Use extreme caution when conditions favor drift (high temperatures, low relative humidity).
- Do not apply during a temperature inversion. If an inversion is suspected, consult the local weather service before applying TOUGH® 5EC.
- These practices can further reduce drift:
  - a. Use spray nozzles that provide medium-coarse droplets (250-400 microns VMD). Nozzles that produce extremely small droplets are more likely to cause spray drift.
  - b. Apply as close to target plants as practical while maintaining a good spray pattern for adequate spray coverage.

### **AVOIDING SPRAY DRIFT AT THE APPLICATION SITE IS THE RESPONSIBILITY OF THE APPLICATOR.**

The interaction of equipment and weather related factors determine the potential for spray drift. The applicator is responsible for considering all these factors when making a decision.

### **Sensitive areas**

The pesticide must only be applied when the potential for drift to adjacent sensitive areas (e.g. residential areas, bodies of water, known habitat for threatened or endangered species, non-target crops) is minimal (e.g. when wind is blowing away from the sensitive areas).

## **APPLICATION INFORMATION**

TOUGH® 5EC is noncorrosive to spray equipment. Before preparing spray mixture, be sure all equipment is clean to prevent uneven applications, clogging of spray nozzles, or crop injury.

Apply TOUGH® 5EC with a boom sprayer calibrated to a constant speed and constant, uniform delivery.

Apply TOUGH® 5EC in sufficient water (15 gal/A minimum; 20-30 gal/A recommended), at a pressure of 30- 40 psi to ensure proper coverage. Thorough coverage of target weeds is required for optimum results. Use higher spray volumes when treating dense or tall vegetation.

Large crop and weed canopies can shelter smaller weeds. Directed applications below large crop canopies are recommended for optimum coverage of target weeds.

Shake Well Before Use. Always ensure that agitation is maintained until spraying is completed, even if stopped for brief periods of time. If the agitation is stopped for more than 5 minutes, suspend the spray solution again by running on full agitation prior to spraying.

## **RESTRICTIONS:**

- DO NOT apply this product through any type of irrigation equipment
- DO NOT apply this product by aerial application
- Removable chemical extraction probes (also known as “stingers”) used in suction/extraction systems must be rinsed within the pesticide container prior to removal.

## **SPRAY ADDITIVES**

### **ADJUVANTS**

When an adjuvant is to be used with this product, the use of an adjuvant that meets the standards of the Chemical Producers and Distributors Association (CPDA) adjuvant certification program is recommended.

Adjuvants (nonionic surfactants, crop oil concentrate or liquid fertilizers) may be used with TOUGH® 5EC.

- A nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant, at the rate of 1 qt./100 gals. of spray volume (0.25% volume/volume) or
- A petroleum- or vegetable based crop oil concentrate containing no less than 12% emulsifier at 1-4 pts./A as specified on the crop oil adjuvant label. The concentration of the crop oil concentrate should not exceed 2.5% volume/volume.
- A liquid nitrogen fertilizer (28-34% nitrogen ammonium form) may also be added at 2-4 qts./A.
- A spray grade ammonium sulfate may be used at the rate of 2-4 lbs./A. Liquid nitrogen fertilizers or ammonium sulfate should not be used as a substitute for crop oil concentrate or nonionic surfactant in the spray mixture.

## **RESTRICTIONS**

1. DO NOT use adjuvants, surfactants or any tank mix partner with adjuvant properties when TOUGH® 5EC is to be applied on lentils.
2. DO NOT use liquid fertilizer as the complete spray carrier when applying TOUGH® 5EC after crop emergence since crop injury may occur.

## **SPRAY EQUIPMENT**

### **Cleaning Equipment After TOUGH® 5EC Application**

The sprayer must be cleaned before and after use of Tough® 5 EC. Failure to clean sprayer may result in unsatisfactory results with TOUGH® 5EC or injury to other crops sprayed with the equipment. Refer to the label of the product used previously or tank mixed with TOUGH® 5EC for additional cleaning instructions.

1. Drain sprayer tank, hoses, spray boom and spray nozzles. Use a high-pressure detergent wash to remove physical sediment and residues from the inside of the sprayer tank and thoroughly rinse. Then, thoroughly flush sprayer hoses, spray boom and spray nozzles with a clean water rinse. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tips) separately in the ammonia solution of Step 2.
2. Next, prepare a sprayer cleaning solution by adding three gallons of ammonia (containing at least 3% active) per 100 gallons of clean water. Prepare sufficient cleaning solution to allow the operation of the spray system for a minimum of 15 minutes to thoroughly flush hoses, spray boom and spray nozzles.
3. Shut down sprayer and keep sprayer system charged with ammonia solution left in the spray tank, hoses, spray booms and spray nozzles overnight or during storage.
4. Before using the sprayer, completely drain the sprayer system. Rinse the tank with clean water and flush through the hoses, spray boom, and spray nozzles with clean water. Remove and clean spray tips and all filters and screens (tank, spray hose and spray tip) separately in an ammonia solution.
5. Properly dispose of all cleaning solution and rinsate in accordance with Federal, State, and local regulations and guidelines. Do not apply sprayer cleaning solutions or rinsate to sensitive crops. Do

not store the sprayer overnight or for any extended period of time with TOUGH® 5EC spray solution remaining in the tank, spray lines, spray boom plumbing, spray nozzles or strainers. If the sprayer has been stored or idle, purge the spray boom and nozzles with clean water before beginning any application. Should small quantities of TOUGH® 5EC remain in inadequately cleaned mixing, loading and/or spray equipment, they may be released during subsequent applications potentially causing effects to certain crops and other vegetation. Belchim Crop Protection NV/SA accepts no liability for any effects due to inadequately cleaned equipment. When TOUGH® 5EC has been tank mixed refer to the label of the product used previously or tank mixed with TOUGH® 5EC for cleaning.

## MIXING INSTRUCTIONS

Always refer to the labels of tank mix partner pesticide products for mixing directions and precautions which may differ from those outlined here. Use in accordance with the most restrictive of label limitations and precautions. No label dosage rates may be exceeded. This product cannot be mixed with any product containing a label prohibition against such mixing. Do not tank mix TOUGH® 5EC with any other insecticide, fungicide, herbicide, fertilizer solution or adjuvant not recommended on the label without testing compatibility of any tank mix combination, as poor mixing may result. It is recommended that the compatibility of any tank mix combination be tested on a small scale such as a jar test before actually tank mixing.

Follow the correct mixing order and mixing instruction or the material may not mix properly. Poor mixing may result in crop injury or poor product performance.

1. Make sure the spray tank is clean before mixing. If it is contaminated with other materials, mixing problems and/or clogging may occur, or injury to the crop may result.
  2. Fill the spray tank  $\frac{1}{4}$  -  $\frac{1}{2}$  full with clean water and begin agitation.
  3. Make certain that the agitation system is working properly and creates a rippling effect or rolling action on the liquid surface. Maintain agitation throughout the mixing and spraying process.
  4. Add any products packaged in water-soluble film to the tank first. Allow the packets to completely dissolve and the contents of the packets to fully and uniformly disperse into the mix water. Important: Water-soluble packets must always be the first material put into the spray tank after water. For products packaged in water-soluble packaging, do not tank mix with products containing boron and do not mix in equipment previously used to apply a product mixture containing boron unless the tank and spray equipment have been thoroughly cleaned.
  5. While maintaining agitation, continue filling the spray tank. When the tank is  $\frac{3}{4}$  full, add desired tank mix partners. Water-dispersible granules or other dry formulations should be added first. Allow material to disperse. Then add TOUGH® 5EC followed by other labeled emulsifiable concentrate tank mix partners.
  6. Follow by adding either:
    - A nonionic surfactant with a minimum of 80% of the constituents effective as a spray adjuvant, at the rate of 1 qt./100 gals. of spray volume (0.25% volume/volume) or
    - A petroleum- or vegetable based crop oil concentrate containing no less than 12% emulsifier at 1-4 pts./A as specified on the crop oil adjuvant label. The concentration of the crop oil concentrate should not exceed 2.5% volume/volume.
    - In addition to crop oil concentrate or nonionic surfactant, a liquid nitrogen fertilizer (28-34% nitrogen ammonium form) may also be added at 2-4 qts./A.
    - Instead of the liquid nitrogen fertilizer, a spray grade ammonium sulfate may be used at the rate of 2-4 lbs./A. Liquid nitrogen fertilizers or ammonium sulfate should not be used as a substitute for crop oil concentrate or nonionic surfactant in the spray mixture.
- Do not use the liquid fertilizer as the complete spray carrier after crop emergence.



7. If flowable or liquid formulations appearing on the TOUGH® 5EC label are desired as tank mix partners, add them next while continuing to agitate. When TOUGH® 5EC is used alone or in tank mix combinations, either crop oil concentrate or a nonionic surfactant should be included, with or without liquid nitrogen fertilizer or ammonium sulfate, as described in item 6 above. Do not use crop oil concentrate as the spray adjuvant when using tank mixtures with products containing the active ingredient dicamba. Use a nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate as the additive in tank mixtures containing these products.
8. Complete filling the tank, maintaining sufficient agitation at all times to ensure surface action until the spray tank mixture is uniform.
9. An anti-foaming agent may be added to reduce excessive foaming if needed.
10. Do not leave contents in the spray tank without continuous agitation. Always maintain agitation to avoid separation and buildup of undesirable residues on the walls of the spray tank.
11. TOUGH® 5EC will remain active in the spray solution for at least 12 hours. However, make only sufficient mixture that will be sprayed the day in which it will be mixed. In case the spray solution remains in the tank for more than 12 hours, make sure to agitate for 30 minutes before making the application.

## WEEDS CONTROLLED

TOUGH® 5EC applied as directed in this label will control or partially control the weeds listed in Table 1. Where reference is made to weeds partially controlled, partial control can either mean erratic control (good to poor) or consistent control at a level below that generally considered acceptable for commercial weed control.

For optimum control of weeds, apply TOUGH® 5EC to actively growing weeds by the 4-leaf stage. A delay in spraying which permits weeds to grow beyond the proper application stage may result in decreased control. If weeds are under stress and not actively growing, they will be more difficult to control. Scout fields often to determine the exact timing for application.

If treatments must be made under adverse conditions or to larger weeds, use the higher rate allowed in this label. Cultivation may be necessary after application if all weeds are not properly controlled or if weeds regrow.

TOUGH® 5EC can be applied in band application and in tank mix with other herbicides that are labeled for band applications.

### Table 1. General Weed List

TOUGH® 5EC, when applied as directed in this label, will control or suppress many annual broadleaf weeds, including but not limited to:

Amaranth, Palmer (Carelessweed)	Galinsoga, small flower	Pigweed, redroot
Amaranth, spiny (Spiny pigweed)	Hemp sesbania	Pigweed, smooth
Bedstraw, catchweed	Henbit	Pigweed, tumble
Beggarweed, Florida	Jimsonweed	Purslane, common
Burcucumber	Kochia	Senna, coffee
Carpetweed	Lambsquarters, common	Shepherds purse
Chickweed, common	Mayweed chamomile	Sunflower, common
Cocklebur, common	Nightshade, American black	Sunflower, volunteer
Corn, chamomile	Nightshade, black	Thistle, Russian
Corn, spurry	Nightshade, eastern black	Waterhemp, tall
Deadnettle, purple	Nightshade, purple	Waterhemp, common
Deadnettle, spotted Eclipta	Nightshade, silverleaf	Yellow rocket
Eclipta, common	Pigweed, fringed	
Galinsoga, hairy	Pigweed, prostrate	

**Special Use Directions for Partial Control of Yellow and Purple Nutsedge:** Apply 24 fl. oz. of TOUGH® 5EC when sedges are 6-8 inches high for partial control of yellow and purple nutsedge. The addition of a crop oil concentrate is recommended for improved activity. TOUGH® 5EC will burn back the top growth of the sedges. Regrowth may occur. Sedges must be actively growing without stress for optimum results. Partial control means significant activity, but not always at a level generally considered acceptable for commercial weed control.

### **CROP REPLANT & ROTATIONAL CROPS**

TOUGH® 5EC has no residual activity and when it is applied as directed on this label, no crop rotation restriction exists following normal harvest of the treated crop.

Field corn, chickpea (Garbanzo beans), or mint may be replanted immediately in case of catastrophic crop failure from hail, flood, etc.

If TOUGH® 5EC is tank mixed with other products, follow the most restrictive product's crop rotation interval or instructions for replant.

### **CROP USE DIRECTIONS**

#### ***CORN (INCLUDING FIELD CORN, SEED CORN\* AND POPCORN\*)***

TOUGH® 5EC may be applied by ground for preplant burndown or postemergence weed control in field corn, seed corn and popcorn.

Split applications of TOUGH® 5EC may be made but do not exceed a total of 24 fl. oz. per treated acre per year. Corn may be treated up to the 8-leaf stage of corn growth, with a pre-harvest interval of 68 days.

Temporary crop response (transient chlorosis) from postemergence applications to corn may occur under extreme weather conditions or when the crop is suffering from stress. Corn quickly outgrows these effects and develops normally.

\*Not all field corn inbred lines or popcorn hybrids have been tested for sensitivity to TOUGH® 5EC. Therefore, Belchim recommends that specific inbred lines and popcorn hybrids be thoroughly tested for potential sensitivity before treating large acreages.

### **RESTRICTIONS**

- Do not apply more than a total of 24 fl. oz (0.94 lb. pyridate active ingredient) of TOUGH® 5EC per acre per year.
- Do not exceed 24 fl. oz. (0.94 lb. a.i./A) in a single postemergence application.
- To avoid excess residues, do not apply within 68 days of harvest.
- DO NOT apply this product through any type of irrigation equipment.
- DO NOT apply this product by aerial application.
- DO NOT apply this product when wind conditions will allow drift to adjacent susceptible vegetation.
- DO NOT apply to corn past the 8-leaf stage.

### **TOUGH® 5EC USED ALONE – POST EMERGENCE (after crop emergence)**

Apply TOUGH® 5EC at 24 fl. oz./A per application. Always add an appropriate adjuvant to the spray tank (see the SPRAY ADDITIVES section of this label).

For best results, apply TOUGH® 5EC to actively growing weeds and when weeds are small (before the 4-leaf stage). Weeds which emerge after application will not be controlled by TOUGH® 5EC.

For a list of weeds controlled by an application of TOUGH® 5EC see Table 1. Application of TOUGH® 5EC at rates less than 24 fl. oz./A (0.94 lb a.i./A) postemergence may result in incomplete weed control.

Optimal weed control is obtained when TOUGH® 5EC is used in a weed control program following a broad spectrum preemergence herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

## TOUGH®5EC TANK MIXTURES FOR CORN

TOUGH®5EC may be tank mixed with other registered herbicides for control of additional broadleaf weeds and/or grasses. Additionally tank mixing with other herbicides labeled for corn can be used to include a different mode of action to help control or manage the development of resistant weed biotypes.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

*Precaution: Some products available for tank mixing with TOUGH®5EC may cause injury to corn when applied.*

### Tank Mixtures in Corn

Apply TOUGH®5EC at 8 -24 fl. oz./A in tank mixture with other corn labeled products. Use this mixture for additional weed control. Use the lower rates of TOUGH®5EC and the recommended labeled rate of the tank mix partner when weeds have fewer than 4 leaves. For broadleaf weeds above the 4-leaf stage, heavy weed infestations, or use under adverse conditions such as drought stress, use the higher rates of TOUGH®5EC.

**NOTE** - Not all of the tank mix pesticides listed below are registered for use on seed corn and popcorn.

Tank Mix Partner	Directions
Atrazine (e.g. AAtrex® 4L, EPA Reg. No. 100-497; AAtrex® nine-O, EPA Reg. No. 100-585)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled. The addition of a crop oil concentrate is recommended for optimum control. Do not apply this tank mixture to corn greater than 12 inches tall.
Nicosulfuron (e.g. DuPont™ Accent®Q Herbicide, EPA Reg. No. 352-773)	Use this mixture for additional grass control. Refer to product label for list of weeds controlled. The addition of a crop oil concentrate is recommended for optimum control.
Topramezone (e.g. Armezon® Herbicide, EPA Reg. No. 7969-262; ImpactZ® Herbicide, EPA Reg. No. 5481-612)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.
Dicamba (e.g. Clarity®, EPA Reg. No. 7969-137)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled. Use only nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulfate.
Mesotrione (e.g. Callisto® Herbicide, EPA Reg. No. 100-1131)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.
Tembotrione + thiencazabone-methyl (e.g. Capreno® Herbicide, EPA Reg. No. 264-1063)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.

Tank Mix Partner	Directions
S-metolachlor + Glyphosate + Mesotrione (e.g. Halex® GT Herbicide, EPA Reg. No. 100-1282)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.
Tembotrione (e.g. Laudis®, EPA Reg. No. 264-860)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.
S-metolachlor + Atrazine + Mesotrione (e.g. Lexar® EZ Herbicide, EPA Reg. No. 100-1414)	Use this mixture for additional broadleaf weed control and enhanced grass control. Refer to product label for list of weeds controlled.
Glufosinate-ammonium (e.g. Liberty® 280 SL Herbicide, EPA Reg. No. 7969-448)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled. For use only on corn warranted as being tolerant to glufosinate. Application of this mixture to a corn hybrid that is not glufosinate tolerant will result in severe crop injury or death.
Primisulfuron-methyl + Dicamba (e.g. Northstar® Herbicide, EPA Reg. No. 100-923)	Use this mixture for additional broadleaf and grass weed control. Refer to product label for list of weeds controlled. If the corn is less than 12 inches tall, use crop oil concentrate or nonionic surfactant if an adjuvant needs to be added. If the corn is bigger than 12 inches, use only nonionic surfactant with or without liquid nitrogen fertilizer or ammonium sulphate.
Rimsulfuron + Mesotrione (e.g. DuPont™ Realm®Q, EPA Reg. No. 352-837)	Use this mixture for additional broadleaf and grass weed control. Refer to product label for list of weeds controlled.
Glyphosate (e.g. RoundUp® WeatherMAX Herbicide, EPA Reg. No. 524-537; RoundUp® PowerMAX Herbicide, EPA Reg. No. 524-549; RoundUp® PowerMAX II Herbicide, EPA Reg. No. 524-537)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled. For use only in glyphosate tolerant corn. Application of this mixture to a corn hybrid that is not glyphosate tolerant will result in crop death. Add spray grade ammonium sulphate (AMS) at a rate that delivers 8.5-17.0 lbs. of AMS/100 gallons of water. If the glyphosate product label calls for an adjuvant in addition to AMS, add a non-ionic surfactant (NIS), crop oil concentrate (COC) or methylated seed oil (MSO) type adjuvants to this tank mixture.
Dicamba + Diflufenzopyr (e.g. Status® Herbicide, EPA Reg. No. 7969-242)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled.
Nicosulfuron + Rimsulfuron (e.g. DuPont™ Steadfast® Herbicide, EPA Reg. No. 352-608; DuPont™ Steadfast® Q Herbicide, EPA Reg. No. 352-774)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled.

### **CHICKPEA (GARBANZO BEANS)**

TOUGH® 5EC can be applied by ground application as a postemergence treatment to chickpea (garbanzo beans) with a pre-harvest interval of 60 days.

Apply TOUGH® 5EC at 12-24 fl. oz./A per application.

Split applications of TOUGH® 5EC may be made but do not exceed a total of 24 fl. oz. per treated acre per year.

Always add an appropriate adjuvant to the spray tank (see the SPRAY ADDITIVES section of this label).

For best results, apply TOUGH® 5EC to actively growing weeds and when weeds are small (before the 4-leaf stage). Weeds which emerge after application will not be controlled by TOUGH® 5EC.

For a list of weeds controlled by an application of TOUGH® 5EC see Table 1. Application of TOUGH® 5EC at rates less than 24 fl. oz./A (0.94 lb a.i./A) in postemergence may result in incomplete weed control.

Optimal weed control is obtained when TOUGH® 5EC is used in a weed control program following a broad spectrum preemergence herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled. Add Sethoxydim (e.g. Poast® Herbicide, EPA Reg. No. 7969-58), Clethodim (e.g. Select Max® Herbicide, EPA Reg. No. 59639-132) or Quizalofop-P-ethyl (e.g. Dupont™ Assure® II Herbicide, EPA Reg. No. 352-541) for postemergence grass weed control. TOUGH® 5EC may be tank mixed with other registered herbicides for control of additional broadleaf weeds and/or grasses.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

### **RESTRICTIONS**

- Do not apply more than a total of 24 fl. oz (0.94 lb. pyridate active ingredient) of TOUGH® 5EC per acre per year.
- Do not exceed 24 fl. oz. (0.94 lb. a.i./A) in a single postemergence application.
- To avoid excess residues, do not apply within 60 days of harvest.
- DO NOT apply this product through any type of irrigation equipment.
- DO NOT apply this product by aerial application.
- DO NOT apply this product when wind conditions will allow drift to adjacent susceptible vegetation.

### **LENTILS**

TOUGH® 5EC can be applied by ground application as a preemergence or postemergence treatment to lentils with a pre-harvest interval of 60 days.

Apply TOUGH® 5EC at 12-20 fl. oz./A per application preemergence.

Apply TOUGH® 5EC at 6-20 fl. oz./A per application postemergence.

Split applications of Tough® 5 EC may be made but do not exceed a total of 20 fl. oz. per treated acre per year.

For best results, apply TOUGH® 5EC to actively growing weeds and when weeds are small (before the 4-leaf stage). Weeds which emerge after application will not be controlled by TOUGH® 5EC.

For a list of weeds controlled by an application of TOUGH® 5EC see Table 1. In postemergence applications at rates less than 10 fl. oz. / acre, use TOUGH® 5EC as part of an integrated weed control strategy, including in combination with other registered herbicides. Always verify acceptable crop tolerance before wide-spread use of unproven tank mix combinations.

Optimal weed control is obtained when TOUGH® 5EC is used in a weed control program following a broad spectrum preemergence herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

## RESTRICTIONS

- DO NOT apply more than a total of 20 fl. oz. (0.78 lb. pyridate active ingredient) of TOUGH® 5EC per acre per year.
- DO NOT exceed 20 fl. oz. (0.78 lb. a.i./A) in a single postemergence application.
- To avoid excess residues, do not apply within 60 days of harvest.
- DO NOT apply this product through any type of irrigation equipment.
- DO NOT apply this product by aerial application.
- DO NOT apply this product when wind conditions will allow drift to adjacent susceptible vegetation.

## TOUGH® 5EC TANK MIXTURES FOR LENTILS

TOUGH® 5EC may be tank mixed with other registered herbicides for control of additional broadleaf weeds and/or grasses. Additionally, tank mixing with other herbicides labeled for lentils can be used to include a different mode of action to help control or manage the development of resistant weed biotypes.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

Tank Mix Partner	Directions
Metribuzin (e.g. Sencor® DF 75%, EPA Reg. No. 264-738; Tricor® 4F, EPA Reg. No. 70506-68)	Use this mixture for additional broadleaf weed control. Refer to product label for list of weeds controlled.
Sethoxydim (e.g. Poast® Herbicide, EPA Reg. No. 7969-58)	Use this mixture for additional grass weed control. Refer to product label for list of weeds controlled.
Quisalofop-P-ethyl (e.g. Dupont™ Assure® II Herbicide, EPA Reg. No. 352-541)	Use this mixture for additional grass weed control. Refer to product label for list of weeds controlled.

## MINT

TOUGH® 5EC can be applied by ground application and as a broadcast postemergence treatment to mint with a pre-harvest interval of 49 days.

Apply TOUGH® 5EC at 24 fl. oz./A per application. Two applications of TOUGH® 5EC at 24 fl.oz./A can be made but do not exceed a total of 48 fl. oz. per treated acre per year. Do not exceed a total of 24 fl. oz./A per application.

For a list of weeds controlled by an application of TOUGH® 5EC see Table 1. Application of TOUGH® 5EC at rates less than 24 fl. oz./A (0.94 lb a.i./A) in postemergence may result in incomplete weed control.

For best results, apply TOUGH® 5EC to actively growing weeds and when weeds are small (before the 4-leaf stage). Weeds which emerge after application will not be controlled by TOUGH® 5EC.

Always add an appropriate adjuvant to the spray tank (see the SPRAY ADDITIVES section of this label).

Optimal weed control is obtained when TOUGH® 5EC is used in a weed control program following a broad spectrum preemergence herbicide. Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled. Add Sethoxydim (e.g. Poast® Herbicide, EPA Reg. No. 7969-58), Clethodim (e.g. SelectMax® Herbicide, EPA Reg. No. 59639-132) or Quisalofop-P-ethyl (e.g. Dupont™ Assure® II Herbicide, EPA Reg. No. 352-541) for postemergence grass weed control. TOUGH® 5EC may be tank mixed with other registered herbicides for control of additional broadleaf weeds and/or grasses.

Refer to individual product labels for precautionary statements, restrictions, rates, approved uses and a list of weeds controlled.

## RESTRICTIONS

- Do not apply more than a total of 48 fl. oz (1.88 lb. pyridate active ingredient) of Tough® 5 EC per acre per year.
- Do not exceed 24 fl. oz. (0.94 lb. a.i./A) in a single postemergence application.
- To avoid excess residues, do not apply within 49 days of harvest.
- DO NOT apply this product through any type of irrigation equipment.
- DO NOT apply this product by aerial application.
- DO NOT apply this product when wind conditions will allow drift to adjacent susceptible vegetation

## STORAGE AND DISPOSAL

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

**PESTICIDE STORAGE:** Keep container tightly sealed when not in use. This product should be stored in its original container in a cool, dry locked place out of reach of children and pets. Do Not Freeze or Expose to Extreme Heat

**PESTICIDE DISPOSAL:** To avoid waste, use all material in this container by application according to label directions. If waste cannot be avoided, offer remaining product to a waste disposal facility or pesticide disposal program (often such programs are run by state or local governments).

### CONTAINER HANDLING:

**NOTE:** This product is available in multiple containers. Refer to the Net Contents section of this product's labeling for the applicable "Nonrefillable" or "Refillable" designation. Follow the container handling instructions below that apply to your container type/size.

#### Nonrefillable containers 5 gallons or less:

Nonrefillable container. Do not reuse or refill this container. Triple rinse container (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 1/4 full with water and recap. Shake for 10 seconds. Pour rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Drain for 10 seconds after the flow begins to drip. Repeat this procedure two more times. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

#### Nonrefillable containers larger than 5 gallons:

Nonrefillable container. Do not reuse or refill this container. Triple rinse or pressure rinse container (or equivalent) promptly after emptying. **Triple rinse as follows:** Empty the remaining contents into application equipment or a mix tank. Fill the container 1/4 full with water. Replace and tighten closures. Tip container on its side and roll it back and forth, ensuring at least one complete revolution, for 30 seconds. Stand the container on its end and tip it back and forth several times. Turn the container over onto its other end and tip it back and forth several times. Empty the rinsate into application equipment or a mix tank or store rinsate for later use or disposal. Repeat this procedure two more times. **Pressure rinse as follows:** Empty the remaining contents into application equipment or a mix tank and continue to drain for 10 seconds after the flow begins to drip. Hold container upside down over application equipment or mix tank or collect rinsate for later use or disposal. Insert pressure rinsing nozzle in the side of the container, and rinse at about 40 psi for at least 30 seconds. Drain for 10 seconds after the flow begins to drip. Then offer for recycling or reconditioning, or puncture and dispose of in a sanitary landfill, or by other procedures approved by State and local authorities. Plastic containers are also disposable by incineration. Do not burn unless allowed by state and local ordinance. If burned stay out of smoke.

Do not transport if container is damaged or leaking. If the container is damaged, leaking or obsolete, or in the event of a major spill, fire or other emergency, call CHEMTREC Day or Night at 1-800-424-9300.

## CONDITIONS OF SALE AND LIMITATION OF WARRANTY AND LIABILITY

**NOTICE:** Read the entire Directions for Use and Conditions of Sale and Limitation of Warranty and Liability before buying or using this product. If the terms are not acceptable, return the product at once, unopened, and the purchase price will be fully refunded. Otherwise, to the extent consistent with applicable law, use by the buyer or by any other user constitutes acceptance of the terms and conditions of the Conditions of Sale and Limitation of Warranty and Liability stated herein.

The Directions for Use of this product must be followed carefully. It is impossible to eliminate all risks associated with the use of this product. Plant injury, lack of performance or other unintended consequences may result because of such factors as manner of use or application, weather or crop conditions, presence of other materials or other influencing factors in the use of the product, which are beyond the control of BELCHIM or Seller. To the extent consistent with applicable law, all such risks shall be assumed by Buyer and User, and Buyer and User agree to hold BELCHIM and Seller harmless for any claims relating to such factors.

BELCHIM warrants that this product conforms to the chemical description on the label and is reasonably fit for the purposes stated in the Directions for Use, subject to the inherent risks referred to above, when used in accordance with directions under normal use conditions. To the extent consistent with applicable law, this warranty does not extend to the use of this product contrary to label instructions, or under abnormal conditions or under conditions not reasonably foreseeable to or beyond the control of Seller or BELCHIM, and Buyer and User assume the risk of any such use. **To the extent consistent with applicable law, BELCHIM MAKES NO WARRANTIES OF MERCHANTABILITY OR OF FITNESS FOR A PARTICULAR PURPOSE NOR ANY OTHER EXPRESS OR IMPLIED WARRANTY EXCEPT AS STATED ABOVE.**

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