



INGREDIENTS:

Active Ingredient:

Pyridate: O-(6-chloro-3-phenyl-4-pyridazinyl)-

S-octyl-carbonothioate 55.8% Other Ingredients: 44.2%

A Great Tool for "Tough" to Control Weeds

- POST-EMERGENCE solution
- CONTACT herbicide
- FAST-ACTING (7-10 days)
- SAFE (will not cause injury to crops)
- NO Plant Back Restrictions
- EXCELLENT EFFICACY on difficult-tocontrol, actively growing broadleaf weeds

Weeds Controlled



Kochia



Common Lambsquarters



Nightshade





Palmer Amaranth



Waterhemp

Mechanism of Action

- Photosynthesis II Inhibitors
- Vary in binding site on the D1 protein in the chloroplast thylakoid membrane
- Group 5, 6 and 7 herbicides can be used in rotation and are not select for cross resistance
- Negative cross resistance is often observed between the groups

Mode of Action – Pyridate







- Pyridate applied after emergence of the weed.
- The product is quickly absorbed by the leaves (rainfast after 30 minutes).



- Pvridate blocks photosystem II of the weed by irreversibly binding to the D1 protein and inhibiting the transport of electrons. High energy electrons then interact with oxygen, producing toxic forms of oxygen
- The toxic forms of oxygen interact and degrade the cell's membranes resulting in necrosis (browning) and ultimate death to the weed

Frequently Asked Questions

What Rate of TOUGH® 5EC Should Be Used to Get the Best Weed Control?

Use the labeled 24 ounces per acre rate.

What Is the Best Time To Apply TOUGH® 5EC?

For best results, apply to weeds when they small (< 4-leaf, < 3" height)

Should I Apply TOUGH® 5EC With An Adjuvant?

Yes, use a COC or MSO as surfactant 1% v/v

How Much Water Should I Use to Apply TOUGH® 5EC?

Thorough coverage is most important, so use a minimum of 15 gallons/acre. However, 20 to 40 gallons is what is recommended on the label and is ideal for better results. Better coverage equals better performance!

Can I Mix TOUGH® 5EC With Another Herbicide?

We are aware of growers combination uses of products such as Basagran (or grass herbicides like Select) and TOUGH®5EC: some feel that there is additional benefit. To our knowledge, TOUGH®5EC does not antagonize the performance of grass herbicides because of it's weaker activity on grass species.

What Is The Best Time of Day to Apply TOUGH® 5EC?

On extremely hot days it is better to spray in the morning. Some growers have sprayed on days that were near 100 degrees with little to no burn on the mint, and the pig weed nearly laid down.

Can I Reduce the Rate of TOUGH® 5EC?

No. We have seen optimal performance at the 24 ounce labeled rate, with 20-40 gallons of water, when weeds are small.

What is the rainfastness of TOUGH® 5EC? Within 60 minutes

Tough 5EC is a registered trademark of Belchim Crop Protection, Basagran is a registered trademark of AgriSolutions, Select is a registered trademark of Valent.