



Steward[®] 150 EC

INSECTICIDE

Reg. No.
12-D-173-5



Contents: **1 litre**

A stomach and contact insecticide with a novel mode of action for the control of Heliothis, Red & Spiny Bollworm on Cotton, Bollworm on Peas, Tuber Moth on Potatoes & Diamond Back Moth on Cabbages and other Brassicas, Budworm and Leaf Miner on Tobacco.

HARMFUL IF SWALLOWED:

Composition (mass/volume):
Indoxacarb 150 g/litre
Inert ingredients..... 850 g/litre
Chemical Group: Oxadiazine

DATE OF MANUFACTURE: See side of container.

EXPIRY DATE: 2 Years from Date of Manufacture.

BATCH NUMBER: See side of container.



MANUFACTURED BY: E.I. Du Pont de Nemours and Co., USA
STEWARD[®] is a registered trademark of E.I. DuPont de Nemours & Co., Wilmington, Delaware 19898, USA
REGISTERED BY: POLACHEM Investments (Private) Limited.
12 CONNOUGHT RD, AVONDALE, HARARE • Tel: 334186, 334204, email: polachem@sa.co.zw



TO CAUSE A HAZARD IN THE USE, STORAGE OR DISPOSAL OF THIS SUBSTANCE IS AN OFFENCE

PRECAUTIONS:

1. Handle with care. Harmful by inhalation, contact and if swallowed. Avoid splashing/contact and do not inhale spray mist.
2. Wear suitable protective clothing (overalls, face shield, rubber boots and gloves).
3. Wash contaminated clothing daily.
4. Remove clothing and shoes immediately if they become contaminated.
5. Do not eat, drink or smoke whilst applying or mixing, or before washing hands and face.
6. Prevent contamination of feed, food, eating utensils and drinking water.
7. Toxic to bees, fish and other aquatic organisms.
8. DO NOT APPLY DIRECTLY TO AND PREVENT DRIFT ONTO DRINKING POOLS, RIVERS, DAMS AND OTHER WATERWAYS.
9. KEEP OUT OF REACH OF CHILDREN, UNINFORMED PERSONS AND ANIMALS.
10. Store in the original container in a cool place away from food and feed and KEEP UNDER LOCK AND KEY.
11. Clean application equipment after use.
12. Dispose of wash water where it will not contaminate grazing, food or water.
13. Rinse the empty container three times with a volume of water equal to a minimum of 10% of that of the container before destroying the container in the prescribed manner.
14. Destroy the empty container by perforation and flattening and do not re-use for any other purpose.

SYMPTOMS OF POISONING: No specific symptoms known. May cause sensitization by skin contact.

FIRST AID:

Eye contact: Wash immediately with plenty of water and seek medical advice.

Skin contact: Wash with soap and water for 15 minutes.

If Swallowed: Do not induce vomiting. Drink 1 – 2 glasses of water, and, if possible, 30 – 50 g of activated charcoal.

If Inhaled: Move to fresh air. If breathing is difficult administer artificial respiration or oxygen and call a doctor.

NOTE TO PHYSICIAN: No known Antidote. Treatment should be symptomatic. Consider gastric lavage avoiding aspiration. Do not give ephedrine or related drugs.

DIRECTIONS FOR USE: (READ ENTIRE LABEL BEFORE USING THIS PRODUCT)

GENERAL INFORMATION:

- **STEWARD® 150 EC** has a novel mode of action. The product acts by inhibiting sodium ion entry into nerve cells resulting in paralysis and death of the pest species. Death of the pest occurs within 1 – 2 days but inhibition of feeding occurs very rapidly (2 – 8 hours).
- **STEWARD® 150 EC** is active on larvae of all development stages.
- **STEWARD® 150 EC** is mainly a Lepidoptera-specific (i.e., caterpillars) insecticide and is safe to most beneficial insects and predatory mites.
- **STEWARD® 150 EC** is effective in hot climatic conditions.
- Addition of a non-ionic surfactant (Polachem recommends Volcano 90™ and WET-ALL) at recommended rates is advised with **STEWARD® 150 EC** applications on potatoes, peas, tobacco and brassicas.

Rainfastness: Once the spray mixture has dried on the target area **STEWARD® 150 EC** will not be washed off by normal rainfall or irrigation and these conditions will therefore not affect the normal residual activity of the product.

Compatibility: The compatibility of **STEWARD® 150 EC** has not been fully investigated. Test mixing before spraying is recommended.

Sprayer Clean Out: Rinse out spray tank 3 times with clean water and flush water through spray lines and nozzles immediately after use of this product.

| CROP/PEST | APPLICATION DIRECTIONS | | | | | |
|---|--|-------------------------------|------------------------------|-----------------------|----------|---------|
| COTTON Heliothis bollworm <i>(Helicoverpa armigera),</i> Red Bollworm <i>(Diparopsis custanea),</i> Spiny Bollworm <i>(Earias spp.)</i> Apply in conjunction with scouting results | MISTBLOWER, TAILBOOM, KNAPSACK LANCE & AERIAL APPLICATION | | | | | |
| | Plant Height | Amount STEWARD® 150 EC/ha | Litres spray mix per hectare | | | |
| | | | Mist Blower | Tailboom | Knapsack | Aerial* |
| | 0.4 to 0.9 m | 114 ml | 65 | 100 | 100 | 10 |
| | Over 0.9 m | 170 ml | 100 | 150 | 150 | 15 |
| | *AERIAL APPLICATION: Add molasses to the spray mixture at 25% by volume to improve penetration into the crop and reduce evaporation. | | | | | |
| | GROUND ULV APPLICATION: Mix 34 ml STEWARD® 150 EC with 350 ml molasses and make up to 1 litre with clean water. Apply the mixture as follows: | | | | | |
| Plant Height | Swath on 1 m wide rows | Walking speed (metres/minute) | Height of sprayer above crop | Litres spray mix / ha | | |
| 0.4 to 0.9 m | 3 rows | 60 | 0.5 – 0.25 m | 3.3 | | |
| Over 0.9 m | 2 rows | 60 | Top of crop | 5.0 | | |

| CROP/PEST | Product Rate / ha | APPLICATION DIRECTIONS |
|--|-------------------|---|
| <p>POTATOES</p> <p>Potato Tuber Moth (<i>Phthorimaea operculella</i>)</p> | 250 mℓ/ha | <p>Apply in 500 – 1000 ℓ water per ha. Good coverage of all foliage is essential. Apply as soon as first symptoms of infestation (mines) appear on the leaves or when presence of moths is observed STEWARD® 150 EC can be applied at 7 – 14 day intervals. Use the shorter intervals early in the season when active vegetative growth is taking place. Do not exceed 5 STEWARD® 150 EC applications per season. Apply 2 – 3 STEWARD® 150 EC applications consecutively (block application) and then alternate with products with a different mode of action.</p> |
| <p>BRASSICAS (Cabbage, Broccoli, Cauliflower, Brussel Sprouts): Diamond Back Moth larvae (<i>Plutella xylostella</i>)</p> | 250 mℓ/ha | <p>Apply in 300 – 600 ℓ water per ha and ensure thorough coverage of areas where the larvae feed. Commence application shortly after transplanting or when the first eggs or very first larvae appear. Under continuous re-infestation use in a programme at 7 – 10 day intervals but do not exceed 5 applications per season. Alternate with products with a different mode of action.</p> |
| <p>PEAS</p> <p>African Bollworm (<i>Helicoverpa armigera</i>)</p> | 250 mℓ/ha | <p>Apply in 250 – 350 ℓ water per ha and ensure even coverage of the foliage. Apply at flowering or when first bollworm eggs or small larvae are observed during flowering/fruit set stage. A follow-up application 7 – 10 days later will normally be necessary. Do not exceed 2 applications of STEWARD® 150 EC per season.</p> |

| CROP/PEST | Timing & Product Rate / ha | APPLICATION DIRECTIONS |
|--|---|--|
| <p>TOBACCO LANDS Budworm (<i>Heliothis</i>) larvae (<i>Helicoverpa armigera</i>)</p> <p>TRB Cert. No. 14-15-D-46 Consult the TRB Handbook for further details</p> | <p>Apply 2 – 4 weeks after transplanting seedlings into the field, during main growth phase of the crop.</p> <p>70 ml / 100 litres water</p> <p>(up to 250 ml / ha)</p> | <p>Apply STEWARD® 150 EC preventively or as an early corrective when bollworm eggs or small larvae are observed during regular scouting. Ensure growing bud is well covered by the application. Application alternatives below are shown in order of preference:</p> <ul style="list-style-type: none"> • Tractor Mounted Boom Sprayer: (Assumes boom can span the ridge without damaging the plants.) Apply STEWARD® 150 EC as a foliar application in 350 – 500 ℓ water per hectare as a 30 cm swath over the top of the plants. Use a large nozzle (LF 15-65 or LF 30-65) and low pressure (1.0 – 1.5 bars) to achieve the high volume spray of large droplets. The addition of an adjuvant / wetter, such as Volcano 90, or WET ALL, is recommended to improve coverage. • Knapsack Sprayer: Apply STEWARD® 150 EC as a foliar application in 4 – 5 ℓ water per 100 metres of row as a 30 cm swath over the top of the plants. Application Volume: aim to apply 350 – 400 litres water / ha. See comments above on wetters. • Cup Application (Will not control Leaf Miner): Apply 30 ml diluted mixture over the top of the plant so that it runs down the stalk. Do not use this method if the plants are wilted. |

| CROP/PEST | Timing & Product Rate / ha | APPLICATION DIRECTIONS |
|---|--|--|
| <p>TOBACCO LANDS <i>(Continued)</i> Budworm (<i>Heliothis</i>) larvae (<i>Helicoverpa</i> <i>armigera</i>)</p> <p>TRB Cert. No. 14-15-D-46 Consult the TRB Handbook for further details</p> <p>Tobacco Leaf Miner (<i>Phthorimaea</i> <i>operculella</i>)</p> <p>TRB Cert. No.14-15-D-47 Consult the TRB Handbook for further details</p> | <p>Apply 2 – 4 weeks after transplanting seedlings into the field, during main growth phase of the crop.</p> <p>70 ml / 100 litres water (up to 250 ml / ha)</p> <p>First few weeks of planting</p> <p>70 ml / 100 l water (105 – 210 ml / ha)</p> | <ul style="list-style-type: none"> • Under conditions of continuous re-infestation, if scouting shows more than 10 Budworm per 100 plants, a second STEWARD® 150 EC application will be necessary. • DO NOT exceed 2 applications per season of STEWARD® 150 EC against <i>Heliothis</i> Budworm, or 3 STEWARD® 150 EC applications against Tobacco Leaf Miner (refer to the recommendations on this label) or a maximum of 840 ml/ha of STEWARD® 150 EC in total per growing season of the tobacco crop. The alternation of STEWARD® 150 EC with insecticides having a different mode of action is recommended. Apply the 2 x STEWARD® 150 EC applications consecutively (i.e., block application) before changing to an insecticide with a different mode of action. <p>This pest is usually controlled by sprays made at planting, or by budworm sprays as above. Where such treatments have not been done, or drenches have been applied rather than sprays, a specific treatment for Leaf Miner may be necessary.</p> <p>The planted seedlings should be scouted for damage soon after planting in areas where this pest is known to occur.</p> |

| CROP/PEST | Timing & Product Rate / ha | APPLICATION DIRECTIONS |
|---|---|---|
| <p>TOBACCO LANDS <i>(Continued)</i></p> <p>Tobacco Leaf Miner <i>(Phthorimaea operculella)</i></p> <p>TRB Cert. No.14-15-D-47 Consult the TRB Handbook for further details</p> | <p>First few weeks of planting</p> <p>70 mL / 100 L water (105 – 210 mL / ha)</p> | <ul style="list-style-type: none"> • Apply STEWARD® 150 EC as a foliar application at 150 L spray mixture per hectare for small plants and 300 L per hectare for larger plants. • 3 sprays of STEWARD® 150 EC at 7 day intervals may be required to eradicate established infestations. • Apply the first and second applications, over the top of the plants making sure that all the foliage is thoroughly covered, especially the lower third of the plants, as this is where tobacco leaf miner infestation is most severe. • For 3rd application it is advised that the plants be treated from both sides. A boom fitted with drop arms with nozzles spraying towards each other is recommended in order to improve coverage. <hr/> <ul style="list-style-type: none"> • Do not exceed 3 x STEWARD® 150 EC applications against Tobacco Leaf Miner, or 2 applications per season with STEWARD® 150 EC against Budworm (for details refer to the Budworm recommendations on this label), or a maximum of 840 mL/ha of STEWARD® 150 EC in total per growing season of the tobacco crop. • NB: See Budworm section above for comments about Insecticide Rotation, Wetters. |

Pre Harvest Interval (PHI):

The following minimum number of days between last application and harvest must be adhered to:

Cabbage, Broccoli, Cauliflower, Brussels Sprouts:3 days

Peas:7 days

Potatoes: 1 day

Tobacco:28 days

WARRANTY:

Although this remedy has been extensively tested under a large variety of conditions the registration holder does not warrant that it will be efficacious under all conditions because the action and effect thereof may be affected by factors such as abnormal soil, climatic and storage conditions, compatibility with other substances not indicated on the label and the occurrence of resistance of the pest against the remedy concerned as well as by the method, time and accuracy of application. The registration holder furthermore does not accept responsibility for damage to crops, vegetation, the environment or harm to man or animal or for lack of performance of the remedy concerned due to failure of the user to follow the label instructions or to the occurrence of conditions that could not have been foreseen in terms of the registration. Consult the Supplier in the event of any uncertainty.

Volcano 90™ and WET-ALL™ are trademarks of ARYSTA LIFESCIENCE.

K-33181/31304 ZIMBABWE



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