

Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4, 2.6 and 3.11 Application

Application Number: 2014-3741
Application: New End-Use Product Chemistry-Guarantee, Identity of Formulants, Proportion of Formulants, New combination of TGIAs; New or Changes to Product Labels-New Pests
Product: ZING Fungicide
Registration Number: 32363
Active ingredients (a.i.): Zoxamide, Chlorothalonil
PMRA Document Number : 2617338

Purpose of Application

The purpose of this application was to register a new end-use product, ZING Fungicide, which contains the active ingredients, chlorothalonil (40%) and zoxamide (6.8%), for the control of botrytis vine rot (*Botrytis cinerea*), early blight (*Alternaria solani*), and late blight (*Phytophthora infestans*) on potato. The application rate range is 2.19-2.63 L/ha with a seasonal maximum of six applications.

Chemistry Assessment

ZING Fungicide is formulated as a suspension containing zoxamide and chlorothalonil at nominal concentrations of 85 g/L and 500 g/L respectively. This end-use product has a density of 1.248 g/mL and pH of 6.75. All the required chemistry data for ZING Fungicide have been provided, reviewed and found to be acceptable.

Health Assessments

ZING Fungicide was of low acute toxicity via the oral and dermal routes and slightly toxic via the inhalation route in rats. It was mildly irritating to the eye and slightly irritating to the skin of rabbits. It was a dermal sensitizer in guinea pigs.

ZING Fungicide for use on potatoes is not expected to result in potential occupational or bystander exposure over the registered use of chlorothalonil or zoxamide. No health risks of concern are expected when workers follow label directions and wear personal protective equipment as stated on the label.

No new residue data for either chlorothalonil or zoxamide in potatoes were submitted to support the registration of ZING Fungicide.

The rates per application and the maximum rates per season for both chlorothalonil and

zoxamide are within $\pm 20\%$ the rates for the registered tank-mix of Zoxium 80W Agricultural Fungicide (Reg. No. 26840; 80% zoxamide) with chlorothalonil containing end-use products. The timing of application and the plant-back restrictions on the approved ZING Fungicide label are identical to those on the label of Zoxium 80W Agricultural Fungicide (Reg. No. 26840; 80% zoxamide).

The pre-harvest interval (PHI) for potatoes on the ZING Fungicide label (PHI = 7 days) is longer than the PHI of 3-days on the label of Zoxium 80W Agricultural Fungicide (Reg. No. 26840; 80% zoxamide). However, given that ZING fungicide will be applied to the foliage of the potato plant, and that the edible tubers are underground, these differences in PHIs will not impact the magnitude of residues in/on treated potatoes. For the same reasoning, the differences in formulation type between ZING Fungicide (suspension) and the precedent end-use product Zoxium 80W Agricultural Fungicide (wetable powder) will not impact the magnitude of residues in/on treated potatoes. Based on this assessment, exposure to residues of chlorothalonil and zoxamide in/on treated potato commodities will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

No additional environmental data were required for the registration of ZING Fungicide for use on potatoes to control botrytis vine rot and early and late blight. No unacceptable risk to the environment is expected from the use of this product since the use pattern for ZING fungicide is within what is currently registered for both chlorothalonil and zoxamide. Buffer zones were calculated to address risk to terrestrial and aquatic organisms.

Value Assessment

The value of this co-formulated product and its associated potato disease claims (early blight, late blight, and botrytis vine rot) was deemed to have been supported as proposed. The information considered in the value assessment for ZING Fungicide consisted of two 2013 efficacy trials on potato, one on early blight and one on late blight, conducted in Prince Edward Island, as well as evidence of efficacy derived from precedent claims for other registered products containing the two active ingredients chlorothalonil and zoxamide separately. Registration of this product would provide Canadian potato producers with an additional management option containing a novel co-formulation of active ingredients for the management of major economically important diseases.

Conclusion

The PMRA has conducted a review of the available information in support of this application and has determined that registration of ZING Fungicide can be supported.

References

PMRA #	Reference
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2455408	2014, GWN-10126: Enforcement Analytical method for the Determination of Chlorothalonil and zoxamide by High Performance Liquid Chromatography,

- DACO: 3.3.1,3.4.1 CBI
- 2455409 2014, GWN-10126: Physical and Chemical Characteristics: Color, Physical State, Odor, pH, Viscosity, and Density/Relative Density, DACO: 3.5.1, 3.5.2, 3.5.3, 3.5.6, 3.5.7, 3.5.9 CBI
- 2455410 2014, Chemical and Physical Properties, DACO: 3.5.11, 3.5.12, 3.5.13, 3.5.15, 3.5.4, 3.5.5, 3.5.8 CBI
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- 2605169 2016, Batch amount and manufacturing controls, DACO: 3.2.2 CBI
- 2455413 2014, GWN-10126: Acute Oral Toxicity Up And Down Procedure In Rats, DACO: 4.6.1
- 2455415 2014, GWN-10126: Acute Dermal Toxicity Study in Rats - Limit Test, DACO: 4.6.2
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- 2455418 2014, GWN-10126: Primary Skin Irritation Study in Rabbits, DACO: 4.6.5
- 2455419 2014, GWN-10126: Dermal Sensitization Study in Guinea Pigs (Buehler Method), DACO: 4.6.6
- 2455421 2014, Value Summaries, DACO 10.1, 10.2.1, 10.2.2, 10.2.3.1, 10.3.1, 10.3.2
- 2455422 2013, ZMX-13-08: Evaluation of GWN-10129 for control of Early Blight, DACO 10.2.3.3
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