Health Canada Santé Canada

Evaluation Report for Category B, Subcategory 2.6 Application

Application Number: 2020-2703
Application: New EP Product Chemistry-New Combination of Technical Grade Active Ingredients
Product: Fierce MTZ Master Herbicide
Registration Number: 34280
Active ingredients (a.i.): metribuzin, flumioxazin, pyroxasulfone
PMRA Document Number: 3277591

Purpose of Application

The purpose of this application was to register Fierce MTZ Master Herbicide containing flumioxazin, pyroxasulfone, and metribuzin for control of certain grasses and broadleaf weeds in chickpea, field pea, lentil, field corn, soybean, and spring wheat and in fallow land, and to maintain bare ground non-crop areas of farms. It is recommended for application alone, or in tank-mix with glyphosate and other listed herbicides for control of a broader spectrum of weeds.

Chemistry Assessment

Fierce MTZ Master Herbicide is formulated as a suspension containing metribuzin at a concentration of 179.2 g/L, pyroxasulfone at a concentration of 76.4 g/L, and flumioxazin at a concentration of 59.8 g/L. This end-use product has a density of 1.13 g/cm^3 and pH of 6.07. The required chemistry data for Fierce MTZ Master Herbicide have been provided, reviewed and found to be acceptable.

Health Assessments

Fierce MTZ Master Herbicide is of slight acute oral toxicity and of low acute dermal and inhalation toxicity. It is non-irritating to the eye and minimally irritating to the skin. It is not a dermal sensitizer.

The use pattern of Fierce MTZ Master Herbicide fits within the use pattern for the active ingredients pyroxasulfone and flumioxazin. However, the risk assessments for these active ingredients were updated to calculate the amount handled per day restrictions and the required personal protective equipment, as the guarantee of pyroxasulfone and flumioxazin and the application rates are lower for use on non-crop areas compared to the previously registered rates. For metribuzin, the use on non-crop areas is considered an expansion of use and therefore, the risk assessment for metribuzin was updated. No health risks of concern are expected for all three active ingredients in Fierce MTZ Master Herbicide provided that workers wear the appropriate personal protective equipment and follow all label directions.

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No new residue data for flumioxazin, metribuzin and pyroxasulfone were submitted to support the registration of Fierce MTZ Master Herbicide. Rather, previously reviewed residue data in/on the labelled crops were re-assessed in the framework of this application. The use directions on the Fierce MTZ Master Herbicide label, including the target crops, method (ground), rates and timing of application, feeding restrictions, and crop rotation restrictions are similar to the precedent end-use products. Based on this assessment, residues are not expected to be greater than those for the currently registered uses and will be covered by the established MRLs. Consequently, dietary exposure to residues of flumioxazin, metribuzin and pyroxasulfone is not expected to increase with the registration of Fierce MTZ Master Herbicide and will not pose health risks of concern to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

The use pattern for Fierce MTZ Master Herbicide is within the registered use pattern of the flumioxazin, metribuzin and pyroxasulfone, and therefore, no additional risk is expected from the use of Fierce MTZ Master Herbicide.

Value Assessment

The registration of Fierce MTZ Master Herbicide provides farmers a useful solution to control a broader spectrum of weeds with soil residual activity in several crops and fallow land and to maintain bare ground non-crop areas of farms. In addition, Fierce MTZ Master Herbicide, which is co-formulated with active ingredients from three mode of action groups (Groups 5, 14, and 15) with overlapping spectra of control, provides farmers a valuable tool that may help manage resistant weeds.

Value information submitted for review consisted of precedent registrations and data from field trials conducted in the Canadian Prairies and eastern Canada in 2018 and 2019. This information collectively demonstrated that the application of Fierce MTZ Master Herbicide provides acceptable control of the labelled weeds and all labelled crops exhibited an adequate margin of tolerance to Fierce MTZ Master Herbicide applied as per the label instructions.

Rotational crops are supported based on the most restrictive registrations of rotational crops as well as the pre-plant and pre-emergent application timing to the host crops on the precedent labels.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the available information and has found it sufficient to support the registration of Fierce MTZ Master Herbicide.

References

PMRA Document Number	Reference
3133685	2017, V-10448 2.64 SC Herbicide: Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, Discussion of Formation of Impurities, Preliminary Analysis, Certified Limits, Enforcement Analytical Method, Submittal of Samples, DACO: 3.2.1,3.2.2,3.2.3,3.3.1,3.4.1,3.4.2
3133686	2017, V-10448 2.64 SC Herbicide: Product Identity and Composition, Description of Materials Used to Produce the Product, Description of Production Process, Description of Formulation Process, Discussion of Formation of Impurities, Preliminary Analysis, Certified Limits, Enforcement Analytical Method, Submittal of Samples, DACO: 3.2.1,3.2.2,3.2.3,3.3.1,3.4.1,3.4.2 CBI
3133687	2017, Validation of Enforcement Analytical Method for Determination of Flumioxazin, Pyroxasulfone, and Metribuzin in V-10448 2.64 SC Herbicide, DACO: 3.4.1
3133688	2017, Physical and Chemical Properties of V-10448 2.64 SC Herbicide, DACO: 3.5.1,3.5.11,3.5.12,3.5.13,3.5.15,3.5.2,3.5.3,3.5.6,3.5.7,3.5.8,3.5.9
3133689	2018, Shelf-Life Storage Stability and Corrosion Characteristics of V-10448 2.64 SC Herbicide, DACO: 3.5.10, 3.5.14
3263784	2021, 830.1650 - Description of formulation process for V-10448 2.64 SC Herbicide, DACO: 3.2.2 CBI
3133691	2017, V-10448: Acute Oral Toxicity - Up-And-Down Procedure in Rats, DACO: 4.6.1
3133692	2017, V-10448: Acute Dermal Toxicity in Rats, DACO: 4.6.2
3133693	2017, V-10448: Acute Inhalation Toxicity in Rats, DACO: 4.6.3
3133694	2017, V-10448: Primary Eye Irritation in Rabbits, DACO: 4.6.4
3133695	2017, V-10448: Primary Skin Irritation in Rabbits, DACO: 4.6.5
3133696	2017, V-10448: Local Lymph Node Assay (LLNA) in Mice, DACO: 4.6.6
3133679	2020, Summary of value for Fierce MTZ Master Herbicide, containing flumioxazin, metribuzin and pyroxasulfone, DACO: 10.1, 10.2.1, 10.2.2, 10.2.3.3(B), 10.3.1, 10.3.2(A), 10.3.3, 10.4, 10.5.1, 10.5.2, 10.5.3, and 10.5.4
3133680	2020, Appendix 2: Trial reports for "summary of value for Fierce MTZ Master Herbicide, containing flumioxazin, metribuzin and pyroxasulfone", DACO: 10.1, 10.2.1, 10.2.2, 10.2.3.3(B), 10.3.1, 10.3.2(A), 10.3.3, 10.4, 10.5.1, 10.5.2, 10.5.3, and 10.5.4
3133681	2017, Appendix 1: Evaluation of new herbicide options for the control of foxtail barley (*Hordeum jubatum*) in spring wheat, DACO: 10.1, 10.2.1, 10.2.2, 10.2.3.3(B), 10.3.1, 10.3.2(A), 10.3.3, 10.4, 10.5.1, 10.5.2, 10.5.3, and 10.5.4

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