Health Canada Santé Canada

Evaluation Report for Category B, Subcategory 2.6 Application

Application Number: 2015-6482
Application: New End-Use Product Chemistry – New Combination of Technical Active Ingredients
Product: Conquer Herbicide
Registration Number: 32528
Active ingredients (a.i.): Pyraflufen-ethyl, Bromoxynil
PMRA Document Number: 2704848

Purpose of Application

The purpose of this application was to register the end-use product (EP) Conquer Herbicide, containing a new combination of active ingredients pyraflufen-ethyl and bromoxynil, for control of emerged broadleaf weeds prior to emergence of small grain cereals, corn, canola and canary seeds and in summerfallow.

Chemistry Assessment

Conquer Herbicide is formulated as an emulsifiable concentrate containing pyraflufen-ethyl at a nominal concentration of 15 g/L and bromoxynil, present as octanoate ester, at a nominal concentration of 467 g/L. This end-use product has a density of 1.229 g/mL and pH of 4.17. The required chemistry data for Conquer Herbicide have been provided, reviewed and found to be acceptable.

Health Assessments

Conquer Herbicide is of high acute oral toxicity and low acute dermal and inhalation toxicity in rats. It is minimally irritating to the eyes and slightly irritating to the skin of rabbits. It is a skin sensitizer in mice.

The occupational exposure from the use of Conquer Herbicide, formulation containing 15 g a.i./L pyraflufen-ethyl + 467 g a.i./L bromoxynil, for the control of labelled broadleaf weeds on pre-emergent small grain cereals (wheat, barley, fall rye, oats, triticale), corn, canola, and canary seed, and in summerfallow is not expected to increase over the current registered uses of pyraflufen-ethyl and bromoxynil. No health risks of concern were identified or are expected when workers follow the label directions and wear the personal protective equipment stated on the label.

Residue data are not required given that the formulation type, use directions/restrictions and tank mix partners on the Conquer Herbicide label are similar to or more restrictive than those on currently registered end-use products for the same crops/sites for each active

ingredient, and that pyraflufen-ethyl and bromoxynil already appear as a recommended tank mixture for use on all proposed crops/sites on the precedent label.

For pyraflufen-ethyl and the E-1 metabolite, the established MRLs of 0.01 ppm in/on wheat and field corn, 0.02 ppm in/on eggs, milk and meat, meat byproducts and fat of cattle, goats, horses, hogs, sheep and poultry, and the recommended MRLs of 0.01 ppm in/on Crop Group 15 Cereal Grains (except rice, wild rice, wheat and field corn) and Crop Subgroup 20A Rapeseed (Revised) with S2014-3071/3090/3091 are adequate to cover anticipated residues of pyraflufen-ethyl when used according to the Conquer Herbicide label.

For bromoxynil, the established MRLs of: 0.05 ppm in/on field corn, triticale, oats, wheat, barley, rye and fat of poultry; 0.1 ppm in/on rapeseeds (canola), eggs, milk, and meat and meat byproducts of poultry; 0.9 ppm in/on meat byproducts of sheep, goats, horses and cattle; 0.25 ppm in/on fat of sheep, goats, cattle, horses; 0.08 ppm in/on meat of hogs; 0.2 ppm in/on meat of goats, sheep, horses, cattle; and, 0.4 ppm in/on meat byproducts of hogs are adequate to cover anticipated residues of bromoxynil when used according to the Conquer Herbicide label.
Based on this assessment, the dietary exposure to pyraflufen-ethyl and bromoxynil is not expected to increase and will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

Environmental Assessment

An environmental assessment was not required for this application.

Value Assessment

The efficacy of Conquer Herbicide applied alone or in tank mix with glyphosate herbicide was determined to be acceptable by the value information submitted. This information included data from 28 small plot replicated field trials and the precedent registrations.

Crop tolerance is expected to be acceptable as these active ingredients (pyraflufen-ethyl and bromoxynil) are present in currently registered herbicides which are applied at higher rates than Conquer Herbicide.

The co-formulation of the two active ingredients pyraflufen-ethyl and bromoxynil into a single product will improve handling and application versus the tank mixes. As the product contains herbicides from mode of action groups 6 and 14, Conquer Herbicide would contribute to resistance management by reducing the potential for the development of resistance to either individual mode of action, or by providing control of weed species that may already have developed resistance to one of these modes of action.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided and is able to support the registration of Conquer Herbicide.

References

PMRA Document Number	Reference
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2586259	2015, Enforcement Analytical Method for the Determination of Pyraflufen-ethyl and Bromoxynil Octanoate by HPLC, DACO: 3.4.1 CBI
2586260	2015, NUP-15015: Physical and Chemical Characteristics, DACO: 3.5.1, 3.5.11, 3.5.2, 3.5.3, 3.5.6, 3.5.7, 3.5.9 CBI
2586261	2015, NUP-15015: Accelerated Storage Stability and Corrosion Characteristics, DACO: 3.5.10, 3.5.14 CBI
2692604	2015, NUP-15015: Acute Oral Toxicity: Acute Toxic Class Method in Rats, DACO: 4.2.1
2692605	2015, NUP-15015: Acute Dermal Toxicity in Rats, DACO: 4.2.2
2692606	2015, NUP-15015: Acute Inhalation Toxicity in Rats, DACO: 4.2.3
2692607	2015, NUP-15015: Primary Eye Irritation in Rabbits, DACO: 4.2.4
2692608	2015, NUP-15015: Primary Skin Irritation in Rabbits, DACO: 4.2.5
2692609	2015, NUP-15015: Local Lymph Node Assay in Mice, DACO: 4.2.6
2586268	2015, A rationale based on trial data to support the use of Conquer Herbicide (pyraflufen-ethyl + bromoxynil octanoate) for broadleaf weed control in a pre-seeding application, DACO: 10.2.1, 10.2.2, 10.2.3, 10.2.3.3(B), 10.3.1, 10.3.2

ISSN: 1911-8082