

Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4, 3.10, 3.11, 3.12 Application

Application Number: 2021-3102
Application: New End-Use Product (Product Chemistry) – Guarantee, Identity of Formulants and Proportion of Formulants, and New Product Label – Tank Mixes, New Pests and New Site or Host
Product: Cyclone PLUS
Registration Number: 34762
Active ingredients (a.i.): Citric acid and lactic acid
PMRA Document Number: 3425524

Purpose of Application

The purpose of this application was to register a commercial end-use product, Cyclone PLUS, for use against certain fungal or bacterial diseases on a range of fruit or vegetable crops grown in the greenhouse and/or field, outdoor/greenhouse ornamentals as well as indoor/field-grown cannabis and field-grown hemp.

Chemistry Assessment

Cyclone PLUS is formulated as a solution containing citric acid at a concentration of 1.41% and lactic acid at a concentration of 2.54%. This end-use product has a density of 1.07 – 1.08 g/cm³ and pH of 3.2-3.6. The required chemistry data for Cyclone PLUS have been provided, reviewed and found to be acceptable.

Health Assessments

A detailed review of the toxicological database was conducted for Cyclone PLUS. Previously reviewed toxicological data for citric acid and lactic acid were considered acceptable to characterize the hazard profile of Cyclone PLUS.

Citric acid and lactic acid are of low acute toxicity, however, both lactic and citric acid are slightly irritating to the skin, and eye irritation studies indicated that, at the concentrations found in Cyclone PLUS, citric and lactic acid are capable of producing moderate to severe injury to the eye, particularly with repeated or prolonged exposure. Appropriate label statements and requirements for basic personal protective equipment will minimize exposure for individuals with repeated or prolonged exposure.

When handled according to the label instructions, the potential for dermal, eye and inhalation exposure for applicators, mixer/loaders, and handlers exists, however, the risk is acceptable provided workers follow label directions and use personal protective equipment (PPE) as instructed.

Label warnings, directions for use, and risk mitigation measures are adequate to protect users of Cyclone PLUS. Overall, risks to workers are acceptable when the precautionary statements on the labels are followed which include PPE.

Residential and non-occupational exposure to Cyclone PLUS is expected to be low when label directions are observed. Consequently, the risk to bystanders and individuals in residential areas and the general public is acceptable.

Residues of citric acid and lactic acid on treated food crops are possible at the time of harvest. Dietary risk to humans from the use of Cyclone PLUS is acceptable due to the low toxicity profile of citric acid and lactic acid. In addition, the likelihood of residues contaminating drinking water supplies is minimal and not expected to contribute to increased dietary exposure. The levels of citric acid and lactic acid that would result on food crops from the use of Cyclone PLUS are expected to be much lower than levels already consumed in the Canadian diet from other sources. Therefore, the specification of a maximum residue limit (MRL) under the *Pest Control Products Act* is not required for citric acid and lactic acid.

Environmental Assessment

The registration of Cyclone PLUS for use as a bactericide and fungicide on terrestrial food crops, greenhouse food and non-food crops, terrestrial non-food and non-feed seed and fibre crops, and outdoor ornamentals, does not pose any additional risk to the environment when used according to label directions.

Value Assessment

The efficacy and crop safety of Cyclone PLUS was compared to that of the precedent products in field and greenhouse bridging trials. Based on this comparison, as well as additional apple and grape field efficacy trials, it was concluded that these products are expected to perform similarly, both in terms of efficacy and crop tolerance. Therefore, the value of all claims registered on the precedent products as well as claims to suppress fireblight on apple and powdery mildew on grape is determined to be acceptable for Cyclone PLUS.

The availability of Cyclone PLUS will provide Canadian growers, including those that rely on non-conventional products, with an additional option to manage common and economically important fungal and bacterial diseases on certain fruit, vegetable, ornamentals, cannabis and hemp crops grown in the field, greenhouse and/or indoors.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found the information acceptable to register Cyclone PLUS.

References

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