



Evaluation Report for Category B, Subcategory 2.3, 2.4 & 2.6 Application

Application Number: 2013-4757
Application: B.2.3 New / Changes EP Product Chemistry-Identity of Formulants
B.2.4 New / Changes EP Product Chemistry-Proportion of Formulants
B.2.6 New / Changes EP Product Chemistry-New combination of TGIAs
Product: Cruiser Vibrance Quattro
Registration Number: 31453
Active ingredients (a.i.): difenoconazole, thiamethoxam, metalaxyl-M and S-isomer, sedaxane and fludioxonil
PMRA Document Number : 2419219

Purpose of Application

The purpose of this submission is to register a new seed treatment product, Cruiser Vibrance Quattro.

Chemistry Assessment

Cruiser Vibrance Quattro is a suspension containing the following active ingredients: difenoconazole (36.9 g/L), thiamethoxam (61.5 g/L), metalaxyl-M and S-isomer (9.2 g/L), sedaxane (15.4 g/L) and fludioxonil (7.7 g/L). This product has a density of 1.07 g/mL and pH of 6.7. The chemistry requirements for Cruiser Vibrance Quattro have been fulfilled.

Health Assessments

Cruiser Vibrance Quattro is of low acute toxicity to rats via the oral, dermal and inhalation routes. It is not irritating to the eye and slightly irritating to the skin of rabbits. Cruiser Vibrance Quattro is not considered to be a dermal sensitizer.

No new residue data were submitted to support the registration of Cruiser Vibrance Quattro. As all active ingredients are currently registered for seed treatment use on barley, oats, rye, triticale, winter wheat, and spring wheat at similar application rates and conditions, the registration of Cruiser Vibrance Quattro will not result in an increase in dietary exposure to these active ingredients and will not pose risks of concern to any segment of the population, including infants, children, adults and seniors.

The worker exposure and risk from the commercial and on-farm seed treatment use of Cruiser Vibrance Quattro were assessed. The use on barley, oats, rye, triticale, winter wheat, and spring wheat seed fits within the registered use pattern for thiamethoxam, difenoconazole, sedaxane, metalaxyl-M and fludioxonil. No risks of concern are expected when workers follow the label directions and wear the personal protective equipment identified on the label.

Environmental Assessment

Since the active ingredients in Cruiser Vibrance Quattro were already registered for use as seed treatments for various, small cereal grains in equal or greater amounts than proposed for Cruiser Vibrance Quattro, no increased environmental risk was expected from use of Cruiser Vibrance Quattro as a seed treatment on these crops. Environmental mitigation statements on the Cruiser Vibrance Quattro label were consistent with the labels of other, relevant registered products.

Value Assessment

Two laboratory assays conducted in Alberta and Saskatchewan in 2013 were reviewed to support the proposed claim for the control of seed-borne *Fusarium* spp., specifically against virulent *F. graminearum* which is primarily responsible for the majority of *Fusarium* diseases in cereals in Canada. Both Vibrance Quattro and Cruiser Vibrance Quattro significantly reduced the *Fusarium* infection by 58 – 76% compared to the non-treated control. Fludioxonil (in the end-use product Proseed Seed Treatment) applied in one assay at the registered rates also significantly reduced *Fusarium* disease by 63 – 76%. However, all other registered products failed to effectively reduce the *F. graminearum* infection in both trials, although most of them are currently registered for the control of multiple seed- or soil-borne fungi including *Fusarium* spp. and others. Since fludioxonil is registered for control of seedling disease caused by *F. graminearum* at rates of 2.5 – 5 g a.i./100 kg seed, it is reasonable to conclude that a low rate of fludioxonil (2.5 g a.i./100 kg seed) in either Vibrance Quattro or Cruiser Vibrance Quattro would not be able to provide an effective protection under high *F. graminearum* pressure.

A use history of the active ingredients related to Vibrance Quattro and Cruiser Vibrance Quattro was also provided in the application. Both Vibrance Quattro and Cruiser Vibrance Quattro provide a high level of broad-spectrum disease control with fungicides from four different chemical classes; therefore, may offer growers protection from crop losses caused by a complex of seed- and soil-borne diseases. The use of Vibrance Quattro and Cruiser Vibrance Quattro would complement existing management practices by introducing two new fungicide seed treatment products to the market.

A rationale was submitted to support control of wireworm in barley, oats, rye, triticale, and winter wheat using Cruiser Vibrance Quattro based on the currently registered application rate for thiamethoxam on barley, oats, rye, triticale, winter wheat and spring wheat seed on the Cruiser Maxx Vibrance Cereals label (Reg. No. 30436). This rationale was acceptable, and supported the application of Cruiser Vibrance Quattro at a rate of 325 mL product (20 g thiamethoxam) per 100 kg barley, oats, rye, triticale, winter wheat and spring wheat seed. In addition, this rationale supported Control of European chafer in barley and wheat with a tank mix with Cruiser 5FS Seed Treatment to achieve a total of 30 g of thiamethoxam per 100 kg seed.

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided in support of the product, Cruiser Vibrance Quattro, and has found the information sufficient to register the new end-use product.

References

PMRA Document Number	Reference
2340217	2013, Thiamethoxam/ Difenconazole/ Metalaxyl-M (Mefenoxam)/ Fludioxonil/ Sedaxane: A20307A - Physical-Chemical Studies of the Formulation - PC Volume, DACO: 3.5.1,3.5.10,3.5.11,3.5.12,3.5.13,3.5.14, 3.5.2,3.5.3,3.5.5,3.5.6,3.5.7,3.5.8,3.5.9,3.7,8.2.2.1,8. 2.3.6,IIIA 2.1,IIIA 2.11,IIIA 2.13,IIIA 2.14,IIIA 2.15,IIIA 2.2.1,IIIA 2.2.2,IIIA 2.3.1,IIIA 2.3.2,IIIA 2.3.3,IIIA 2.4.1,IIIA 2.4.2,IIIA 2.5.2,IIIA 2.6.2,IIIA 2.7.1,IIIA 2.7.5,IIIA 2.8.1,IIIA 2.8.2,IIIA 2.8.3.1,IIIA 2.8.3.2,IIIA 2.8.5.2,IIIA 2.8.6.2,IIIA 2.8.6.3,IIIA 2.8.6.5,IIIA 2.8.8.1
2340225	2013, Thiamethoxam/ Difenconazole/ Metalaxyl-M (Mefenoxam)/ Fludioxonil/ Sedaxane: Analytical Method SF-622/1 - Determination of CGA169374, CGA173506, CGA293343, CGA329351, SYN524464 in A20307A, DACO: 3.4.1,IIIA 5.2.2
2340226	2013, Thiamethoxam/ Difenconazole/ Metalaxyl-M (Mefenoxam)/ Fludioxonil/ Sedaxane: A20307A - Validation of Analytical Method SF-622/1 , DACO: 3.4.1,IIIA 5.2.2
2418181	2014, Cruiser Vibrance Quattro: Response to Clarification Questions for Sub. No. 2013-4757, DACO: 3.3.2 CBI
2340146	2013, 0.8 - Correspondence - VIBRANCE QUATTRO - New Product, DACO: 0.8 (OECD)
2340205	2013, 0.8 - Correspondence - VIBRANCE CMAXX - New Product, DACO: 0.8 (OECD)
2340140	2013, VIBRANCE QUATTRO and VIBRANCE CMAXX - Document M-III, Section 7 – Efficacy Data and Information - Canada, DACO: 10.2.3.1, 10.2.3.4, 10.3.1, 10.3.2, 12.7, Document M, IIIA 6.1.3, IIIA 6.1.4.1, IIIA 6.1.4.3, IIIA 6.2.1, IIIA 6.2.3, IIIA 6.6
2340140	2013, VIBRANCE QUATTRO and VIBRANCE CMAXX - Document M-III, Section 7 – Efficacy Data and Information - Canada, DACO: 10.2.3.1, 10.2.3.4, 10.3.1, 10.3.2, 12.7, Document M, IIIA 6.1.3, IIIA 6.1.4.1, IIIA 6.1.4.3, IIIA 6.2.1, IIIA 6.2.3, IIIA 6.6
2340139	2013, Difenconazole/Fludioxonil/Metalaxyl-M (Mefenoxam)/Sedaxane: A20673A - Document M-III, Section 3 - Toxicological Studies, DACO: 12.7,4.6.1,4.6.2,4.6.3,4.6.4,4.6.5,4.6.6,5.10,5.3,5.6,5.7,5.9,Document M,IIIA 7.1.1,IIIA 7.1.2,IIIA 7.1.3,IIIA 7.1.4,IIIA 7.1.5,IIIA 7.1.6,IIIA 7.3.2,IIIA 7.5.2

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