

## Evaluation Report for Category B, Subcategory 2.6 Application

**Application Number:** 2010-4141  
**Application:** B.2.6 (Product chemistry - new combination of TGAIs)  
**Product:** Cabrio Plus  
**Registration Number:** 30395  
**Active ingredients (a.i.):** Metiram (MTR), Pyraclostrobin (PYA)  
**PMRA Document Number English PDF:** 2028548

### Purpose of Application

The purpose of this application was to register a new end-use product, Cabrio Plus fungicide, containing metiram (guarantee 55%) and pyraclostrobin (guarantee 5%), for use as a foliar fungicide on potato to control early blight (*Alternaria solani*) and late blight (*Phytophthora infestans*).

### Chemistry Assessment

Cabrio Plus is formulated as water dispersible granules containing metiram at a nominal concentration of 55 % and pyraclostrobin at a nominal concentration of 5 %. This end-use product has a bulk density of 571 – 635 g/L and a pH of 6.1 – 8.1 for a 1% dispersion. The chemistry requirements for Cabrio Plus fungicide are complete.

### Health Assessments

Cabrio Plus is moderately acutely toxic by the oral route and is of low acute toxicity via the dermal and inhalation routes in rats. It is mildly irritating to the eyes and moderately irritating to the skin of rabbits. Cabrio Plus is not a skin sensitizer in guinea pigs.

A health risk assessment was conducted for the use of the new end-use product Cabrio Plus on potatoes. No unacceptable risk from pyraclostrobin is expected for mixer/loader and applicators handling Cabrio Plus. Chemical handler exposure from metiram is not expected to increase over the current registered use. Exposure to re-entry workers and bystanders is not expected to increase over the current registered use pattern of pyraclostrobin or metiram. No unacceptable risk is expected when workers follow the label directions and wear the personal protective equipment identified on the label.

No new residue data were submitted to support the registration of Cabrio Plus, a co-formulation of two registered active ingredients pyraclostrobin and metiram for use on potatoes. Since there is no change proposed to the application rates or use pattern with respect to the currently registered use of pyraclostrobin and metiram on potatoes, the

use of Cabrio Plus is not expected to increase the magnitude of pyraclostrobin and metiram residues in/on potatoes. Therefore, as a result of the use of Cabrio Plus, the dietary exposure 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 as the application rates and method for Cabrio Plus fall within the currently registered uses. Therefore, the application of the Cabrio Plus for the control of early and late blight on potato is not expected to increase the environmental risk from pyraclostrobin or metiram. Environmental concerns are addressed through mitigation measures and environmental hazard statements on the product label.

### **Value Assessment**

No efficacy trials were submitted, but the registrant provided a rationale to support this application.

Both active ingredients metiram and pyraclostrobin are currently registered for use on potato in various end use products in different formulations, including Headline EC Fungicide (Registration Number 27322, pyraclostrobin 250 g/L) and Polyram DF Water Dispersible Granular Fungicide (Registration Number 20087, metiram 80%). The tank mix of Headline EC Fungicide and Polyram DF Water Dispersible Granular Fungicide for the control of late blight on potato is also registered on the Headline EC label at the rates of 0.45-0.67 L/ha and 1.1-2.25 kg/ha, respectively. In addition, Cabrio Plus is also registered in many other countries for the same uses, including Brazil, Bolivia, China and Ecuador.

The use rates for both active ingredients in Cabrio Plus are within the currently registered rates. The maximum number of applications is three (3) applications per season. The number of applications is less than that currently allowed on the Headline EC Fungicide label (six applications per season), while there is no maximum number of applications specified on the Polyram DF Water Dispersible Granular Fungicide label. The registrant also indicated that the intention of BASF Canada to market Cabrio Plus is to support the strategy to protect the strobilurin fungicides because of high resistance risk.

Based on the information reviewed, the PMRA supports the registration of Cabrio Plus for use to control early blight (*Alternaria solani*) and late blight (*Phytophthora infestans*) on potato. The label of Cabrio Plus is accepted without amendments.

### **Conclusion**

The PMRA has completed an assessment of the available information and is able to support the registration of Cabrio Plus, containing metiram (55%) and pyraclostrobin (5%), for use as a foliar fungicide on potato to control early blight (*Alternaria solani*) and late blight (*Phytophthora infestans*).

## References

- 1952590 2010, Product Identification, DACO 3.1.1 to DACO 3.1.4, DACO: 3.1,3.1.2,3.1.3,3.1.4
- 1952591 2010, Cabrio Plus fungicide: Group A - product identity, composition and analysis, DACO: 3.2.1,3.2.2,3.2.3,3.3.1,3.4.2,3.5.5 CBI
- 1952592 2000, Development and validation of the analytical method [CBI removed] - Determination of Reg.No. 304 428 and Metiram in water dispersible granules [CBI removed] DACO: 3.4.1
- 1952594 2000, Quantitative determination of the active ingredients Reg.No. 304 428 and Metiram in [CBI removed], DACO: 3.4.1
- 1952595 2000, Data concerning the chemical and physical properties of the formulated product [CBI removed], DACO: 3.5.1,3.5.11,3.5.2,3.5.3,3.5.4,3.5.6,3.5.7
- 1952598 2003, Shelf life at 20°C in original container (paper bag PE laminated) of the formulation [CBI removed]. 24 month storage - Analytical results and physical properties, DACO: 3.5.10,3.5.14
- 1952600 2008, Evaluation of physical and chemical properties according to Directive 94/37/EC (67/548/EC Annex V), DACO: 3.5.8
- 1952601 2010, DACO 3.5.9 3.5.12 3.5.13 3.5.15, DACO: 3.5.12,3.5.13,3.5.15,3.5.9
- 2030856 Description of Manufacturing Process in how Pyraclostrobin is added, DACO: 3.2 CBI
- 2066470 2011, Cabrio Plus [CBI removed] - quality control data, DACO: 2.13.3 CBI
- 1952602 2000, BAS 518 01 F - Acute oral toxicity in rats, DACO: 4.6.1
- 1952603 2000, BAS 518 01 F - Acute dermal toxicity in rats, DACO: 4.2.2,4.6.2
- 1952604 2000, BAS 518 01 F - Acute inhalation toxicity study in Wistar rats. 4-hour dust exposure, DACO: 4.2.3,4.6.3
- 1952605 2000, BAS 518 01 F - Acute eye irritation in rabbits (Including amendment no. 1), DACO: 4.2.4,4.6.4
- 1952606 2000, BAS 518 01 F - Acute dermal irritation/corrosion in rabbits, DACO: 4.2.5,4.6.6
- 1952607 2000, BAS 518 01 F - Modified Buehler Test (9 inductions) in guinea pigs, DACO: 4.6.6

- 2027289 2011, BAS 518 01 F - Modified Buehler Test (9 inductions) in guinea pigs  
(Including amendment no. 1), DACO: 4.2.6
- 1952588 2010, Part 10 Value: Previously submitted data and need for Premixture Cabrio  
Plus, DACO: 10.1.

ISSN: 1911-8082

© Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services  
Canada 2011

All rights reserved. No part of this information (publication or product) may be reproduced or transmitted in any form or by any means, electronic, mechanical photocopying, recording or otherwise, or stored in a retrieval system, without prior written permission of the Minister of Public Works and Government Services Canada, Ottawa, Ontario K1A 0S5.