



## Evaluation Report for Category B, Subcategory 2.6 Application

**Application Number:** 2008-5712  
**Application:** New/Changes EP or MA Product Chemistry-New combination of TGAIs  
**Product:** Velocity M3 Herbicide  
**Registration Number:** 29584  
**Active ingredients (a.i.):** Bromoxynil (BRY) Pyrasulfotole (PSA) Thiencazone-methyl (RRR)/ herbicide  
**PMRA Document Number :** 1859294

### Purpose of Application

Bayer Crop Science Inc. has submitted an application to register a new end-use product, Velocity M3 Herbicide, which is a co-formulation of the registered active ingredients, thiencazone-methyl, pyrasulfotole and bromoxynil, and the crop safener, mefenpyr-diethyl. Velocity M3 Herbicide is to be applied post-emergence in all types of spring wheat and durum wheat for the control of several annual grasses, annual broadleaf weeds and suppression of select perennial broadleaf weeds. The co-formulation will deliver an application rate of 5 g a.i./ha thiencazone-methyl + 31.3 g a.i./ha pyrasulfotole + 175 g a.i./ha bromoxynil.

### Chemistry Assessment

Velocity M3 Herbicide is formulated as a suspension containing bromoxynil at a nominal concentration of 175 g/L, pyrasulfotole at a nominal concentration of 31.3 g/L, and thiencazone-methyl at a nominal concentration of 5 g/L. This end-use product has a density of 1.11 g/mL and pH of 6.3. The product contains petroleum distillates. The chemistry requirements for Velocity M3 Herbicide are complete.

### Health Assessments

No new residue data were required to support the registration of Velocity M3 Herbicide, since all active ingredients and the safener are currently registered for use on spring and durum wheat in Canada with equal or higher application rates. The use of Velocity M3 Herbicide is not expected to increase the magnitude of bromoxynil, pyrasulfotole, thiencazone-methyl and mefenpyr-diethyl residues in/on wheat. Therefore, the registration of Velocity M3 Herbicide will not increase the dietary exposure and will not pose an unacceptable risk to any segment of the population, including infants, children, adults and seniors.

The use of Velocity M3 Herbicide on spring and durum wheat fits within the existing use pattern for bromoxynil, pyrasulfatole and thien carbazonemethyl. The exposure to mixer/loader, applicators and workers entering treated areas is not expected to increase over the currently registered use pattern. The personal protective equipment and restricted entry interval required on the label is sufficient to protect workers.

Velocity M3 Herbicide is of moderate acute toxicity by the oral route ( $LD_{50}$  (♀) = 500 mg/kg bw), but of low toxicity by the dermal ( $LD_{50}$  (♂♀) > 2000 mg/kg bw) and inhalation ( $LC_{50}$  (♂♀) > 3.21 mg/L) routes in rats. It is extremely irritating and mildly irritating to the eye and skin of rabbits, respectively, and is a potential dermal sensitizer in mice.

### **Environmental Assessment**

An environmental assessment of Velocity M3 Herbicide on spring and durum was not required, since the rate, number, frequency and method of application fall within the registered use pattern of Velocity Herbicide and Velocity 2 Herbicide and does not increase the environmental risk. Environmental concerns have been mitigated through environmental statements and buffer zones on the product label.

### **Value Assessment**

Data from a total of 27 field trial studies conducted in Alberta, Saskatchewan and Manitoba over 3 years (2006 - 2008) were submitted for review. In 16 of these trials, efficacy was assessed along with crop tolerance of spring wheat and durum wheat after post-emergence applications of Velocity M3 Herbicide. Efficacy data were provided for 2 labelled grassy weed species and 7 labelled broadleaf weed species. Fifteen trials, including 4 trials that reported data for both efficacy and crop tolerance, were dedicated crop tolerance trials, which had either a hand weeded weed-free check or a herbicide treated weedy check. Crop injury was visually assessed throughout the growing season. All treatments were applied when the majority of the crop (i.e. spring and durum wheat) was between the 3-leaf to 3 tiller growth stage.

Overall, percent visual control values for Velocity M3 Herbicide treatments were similar to the tank mix of Velocity Herbicide + Velocity 2 Herbicide. Velocity M3 Herbicide and the tank mix of Velocity Herbicide + Velocity 2 Herbicide were shown to be agronomically equivalent. Antagonism was not observed with the tank mixture treatments.

Crop injury data collected with Velocity M3 Herbicide applied at the 1x and 2x rates were similar to the tank mix of Velocity Herbicide + Velocity 2 Herbicide applied at the 1x and 2x rates and thus supported crop tolerance claims. Crop yield data collected with Velocity M3 Herbicide applied at the 1x and 2x rates were similar to the tank mix of Velocity Herbicide + Velocity 2 Herbicide applied at the 1x and 2x rates.

## Conclusion

The PMRA has completed an evaluation of the subject application and has found the information sufficient to register the new end-use product, Velocity M3 Herbicide.

## References

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- bromoxynil + mefenpyr-diethyl Efficacy Summary Table-bridging, DACO: 10.2.3, 10.2.3.1, 10.2.3.2(B)
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