

## Evaluation Report for Category B, Subcategory 2.1, 2.3, 2.4 Application

**Application Number:** 2007-2288  
**Application:** B.2.1 (Product chemistry – guarantee)  
B.2.3 (Product chemistry – identity of formulants)  
B.2.4 (Product chemistry – proportion of formulants)  
**Product:** Starane II Herbicide  
**Registration Number:** 29463  
**Active ingredients (a.i.):** fluroxypyr (FLR) / Herbicide  
**PMRA Document Number:** 1614221  
**PMRA Document Number: 1937054**

### Purpose of Application

The purpose of this application was to register a new formulation of Starane II Herbicide with new use rates. The requested new formulation does not contain any nonylphenol ethoxylated (NPE) formulants and is similar to that of Starane Herbicide (Registration number 24815). For specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements, refer to the product label.

### Chemistry Assessment

Starane II Herbicide contains the active ingredient fluroxypyr (present as fluroxypyr-meptyl) at a nominal concentration of 333 g/L. This product has a density of 1.0552 g/mL at 20°C and pH of 4.58. The chemistry requirements for Starane II Herbicide are complete.

### Health Assessments

Starane II Herbicide is of low acute toxicity by the oral ( $LD_{50} > 5000$  mg/kg bw), dermal ( $LD_{50} > 5000$  mg/kg bw), and inhalation ( $LC_{50} > 5.5$  mg/L) routes of exposure. The formulation is moderately irritating to the rabbit eye, and is slightly irritating to the rabbit skin. Starane II Herbicide is considered to be a potential dermal sensitizer based on the Local Lymph Node Assay.

The proposed uses of fluroxypyr should not result in an increase in potential occupational or bystander (reentry) exposure over registered uses of the active ingredient, since the crops, application rate, number of applications, frequency of application and method of application fall within the currently registered products.

## **Environmental Assessment**

The new product formulation of Starane II Herbicide will not increase the potential environmental exposure/impact relative to the currently registered product Starane Herbicide (Registration number 24815). Therefore, no increase in environmental risk is expected. Environmental concerns have been mitigated through adequate statements on the product label.

## **Value Assessment**

Data were submitted from 56 replicated field trials conducted in Manitoba, Saskatchewan, and Alberta in 2006. Efficacy of Starane II applied alone and/or in tank mixtures was assessed for control of a subset of weed species for which control or suppression claims were proposed and for which such claims are registered for the cited precedent product, Starane Herbicide. In 15 of these trials, only treatments of Starane II alone and/or in tank mixtures were included (i.e. did not contain Starane-based treatments). The remaining 41 trials included treatments of both Starane Herbicide and Starane II Herbicide applied alone and/or in tank mixtures. The tolerance of spring barley and spring wheat, including durum wheat, was also assessed in these trials, with one crop having been assessed in each trial.

The efficacy of Starane II Herbicide was similar to that of Starane Herbicide whether these herbicides were applied alone or in tank mixtures proposed for use with Starane II Herbicide or that are registered for use with Starane Herbicide or Prestige Herbicide Tank Mix (Prestige A Herbicide, Registration number 25465 and Prestige B Herbicide, Registration number 25464). While not all weed species were tested, data were sufficient to establish that Starane II Herbicide is agronomically equivalent to Starane Herbicide from an efficacy standpoint.

Crop safety, visually assessed as percent injury, percent chlorosis, percent growth inhibition, or percent delay in maturity, was similar between Starane II and Starane Herbicides whether applied alone or in 2-way tank mixtures with 2,4-D ester, MCPA ester, or Curtail M (Registration number 22764), or in three-way tank mixtures with a graminicide.

While grain yield data were collected in only two trials and only on barley, the performance of Starane II and Starane whether applied alone or in tank mixtures to barley, spring wheat, including durum wheat, would be expected to be similar in terms of grain yield, since levels of injury, chlorosis, delay in maturity and growth inhibition were similar between Starane II and Starane-based treatments. Furthermore, injury levels were often not visually detectable or were very slight in spring wheat and durum, while in barley, the moderate injury observed in the early season diminished over time, such that by the late season, the slight injury that was still evident was similar for Starane II and Starane-based treatments. Data were sufficient to establish that Starane II Herbicide is agronomically equivalent to Starane Herbicide from a crop safety standpoint.

## **Conclusion**

The PMRA has completed an assessment of available information for Starane II Herbicide and has found the information sufficient to allow for full registration.

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