

Evaluation Report for Category B Subcategory 2.1, 2.3, 2.4, 2.5, 3.4 Application

Application Number:	2004-1021
Application:	Evaluation Report for Category B, subcategory 2.1, 2.3, 2.4, 2.5, 3.4-S-N-EP
Product:	Biobarrier Root Control System
Registration Number:	28477
Active ingredients:	Trifluralin
PMRA Document Number:	1313720
Applicant:	Reemay Inc., BBA Fiberweb

Purpose of Application

The purpose of this application is to register Biobarrier Root Control System, an end-use product containing the active ingredient, trifluralin (17.5%), for the control of plant root growth. Trifluralin Technical (Reg. No. 18602) and its other end use product, Triflurex 40Ec (Reg. No. 17223), are currently registered for use as pre-emergent herbicides in several field crops, vegetables and shelterbelts. Biobarrier is a multi-year root control system intended for use in flower beds, mature trees, woody, container grown and transplanted ornamentals, shelter belts, nursery ornamentals, ground cover and non-food ornamentals (USCs 4 and 27). The product is a ready-to-use fabric which can be installed in soil horizontally, vertically or as a surround to inhibit or redirect the plant root growth. For specific details of uses, application methods, precautions and restrictions, refer to the product label.

Chemistry Assessment

Biobarrier Root Control System is formulated as an impregnated fabric containing trifluralin at a nominal concentration of 17.5%. With the exception of the storage stability study that is currently in progress, the chemistry requirements for the product are complete.

Health Assessment

As the Biobarrier Root Control System has the technical grade active impregnated in nodules in fabric, conventional acute testing was not possible, and oral and inhalation exposure are unlikely. The potential does, however, exist for skin irritation and sensitization, and eye irritation as the consumer touches the fabric. Therefore, the acute toxicity values for skin irritation and sensitization and eye irritation that are associated with the technical grade active are considered adequate for this product. Subsequently, the Biobarrier Root Control System is a moderate eye irritant and a potential skin sensitizer.

The requested use of Biobarrier, a ready-to-use formulation, is a new outdoor use for trifluralin. The potential for exposure to nursery workers or commercial applicators exists by the dermal and inhalation routes during manual installations of the fabric. The amount of trifluralin applied to a given surface area of soil is significantly higher than the registered rate, however, since the active ingredient is bound within nodules embedded in a fabric tarp, it is not bioavailable in the same way as the granular and emulsifiable concentrate formulations currently registered for broadcast application. Therefore, dermal exposure to the proposed product is anticipated to be lower than registered broadcast uses. Inhalation exposure potential is anticipated to be low during use outdoors. Potential post-application exposure from the use of product placed under 5 cm of soil is expected to be lower than the exposures from the currently registered domestic granular formulation of trifluralin on garden soil (PCP # 12611).

Environmental Assessment

Trifluralin is insoluble in water, moderately persistent in soils and immobile due to its strong adsorption to soils. The vapour pressure and Henry's Law Constant indicate that it is volatile under field conditions and from moist soil/water surfaces, respectively. Trifluralin is practically non-toxic to bees, birds and mammals on an acute basis and, further, exposure to these terrestrial organisms will not be a concern with the proposed use pattern. Biobarrier is moderately to highly toxic to aquatic organisms. Biobarrier has, however, no direct aquatic applications and further, the product is installed in soil and covered with a minimum of 5 cm depth of surface soil (in the case of horizontal placement). Aquatic exposure due to surface runoff is, therefore, not a concern with the proposed use pattern. Also, drift to non-target areas will not be a concern.

A review of the label indicated that it contains adequate label statements to protect aquatic organisms from the proposed use. These environmental statements should, however, be placed under a separate section "ENVIRONMENTAL HAZARDS" instead of under "PRECAUTIONS".

All the formulants listed in the formulation for Biobarrier come under US EPA Lists 3, 4A, or 4B, and are, therefore, not expected to pose a TSMP concern.

Value Assessment

Data from seven trial reports were submitted to support the claim that BioBarrier Root Control System is a multi-year-in-soil barrier plane of trifluralin which inhibits plant root development by stopping or redirecting roots while maintaining the health and vigour of desirable vegetation.

Numerous plant growth parameters were measured and assessed over a period of time that ranged between 3 months and 2 growing seasons after installation of the product. The data indicated that the product may perform as claimed, however, no data were submitted to demonstrate that the plant roots are inhibited, stopped or redirected away from product beyond which is provided by the physical barrier of the non-woven polypropylene fabric carpet alone.

Conclusion

The Agency has completed an assessment of available information for BioBarrier Root Control System and has found the information sufficient to allow for a conditional registration, with full registration being contingent upon fulfilling the following requirements:

- Data from the one-year storage stability (DACO 3.5.10), which, according to the applicant, is expected to be completed by December 2006
- Trials that would confirm that BioBarrier Root Control System inhibits plant root development by stopping or redirecting roots (DACO 10.2.3.3), while maintaining the health and vigour of desirable vegetation (DACO 10.3.2).

References

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