

Evaluation Report for Category B, Subcategory 3.8 Application

Application Number: 2012-4319
Application: B.3.8 (re-entry interval)
Product: Grotek Ascend Vaporized Sulphur
Registration Number: 30345
Active ingredients (a.i.): Sulphur (SUL)
PMRA Document Number: **22772358**

Background

Grotek Ascend Vaporized Sulphur has been registered since June 13, 2012 to prevent and control powdery mildew on greenhouse vegetables, fruit, and ornamentals. For specific details of uses, application rates and methods, precautions, restrictions, and personal protective equipment requirements, refer to the product label.

Purpose of Application

The purpose of this application was to submit a waiver rationale to support shortening the re-entry interval for the product from 24 hours to two hours.

Health Assessment

A toxicology assessment was not required since there was no change to the formulation. A food residue assessment was not required since there were no changes to the food crops to be treated, the method of application, and the application.

The original re-entry interval for Grotek Ascend Vaporized Sulphur was 24 hours. This was consistent with the re-entry interval recommended for field crop and greenhouse applications in the PMRA re-evaluation of sulphur (PACR2004-10). This recommendation was based a similar re-entry interval from the U.S. Environmental Protection Agency (US EPA) registration eligibility document (RED) for sulphur which was intended to prevent incidents of skin and eye irritation in workers re-entering fields following foliar applications of sulphur dust.

The waiver rationale for shortening the re-entry interval noted that in some cases, the recommended application rates for previously registered sulphur products (e.g., dusts) are much higher than the application rates for Grotek Ascend Vaporized Sulphur and the methods of application (e.g., tractor driven crop dusters) are different from the sulphur vaporization approach used with Grotek.

Also, a published study of greenhouse ventilation was submitted for tall, double-layer, gutter vented air-inflated polyethylene greenhouses which are the dominant type used for vegetable production in North America. In this study, it was reported that greenhouse ventilation rates (air exchanges/hour) were dependent on the % vent opening, wind speeds, and temperature differences between the greenhouse and the outside air. For fixed vent openings of 10–100 %, air exchange rates varied from 1.62 to 41.31 per hour depending on the wind speed and inside-outside temperature difference. The waiver rationale noted that based on these data, it is possible to have a complete exchange of the air in the greenhouse during the re-entry interval/venting period so that after the re-entry interval there would be no risk of exposure to sulphur vapor.

Published guidelines or standards for ventilation rates for commercial greenhouses were not identified, but commonly recommended ventilation rates generally include a minimum of four air exchanges per hour for most commercial and public facilities.

The waiver submitted by the applicant is acceptable provided that the ventilation of the greenhouses during the re-entry period ensures a minimum of four complete air exchanges per hour.

Chemistry, Environmental and Value Assessments

Chemistry, environmental and value assessments were not required for this application.

Conclusions

The PMRA has completed an evaluation of the subject application and has found that the proposal to reduce the re-entry interval for Grotek Ascend Vaporized Sulphur to two hours is acceptable, provided that the ventilation of the greenhouse ensures a minimum of 4 complete air exchanges per hour during the re-entry interval.

It is expected that the reduced re-entry interval combined with sufficient post-application ventilation of the greenhouses will not significantly increase exposure to sulphur for workers performing post-application tasks.

References

PMRA Document Number	Reference
2235183	2012, Rational to Shorten Re-Entry Interval for Grotek Ascend Vaporized Sulphur from Twenty-four Hours to Two Hours, August 20, 2012, DACO: 5.2
2235186	Dusting Sulphur, Label, Wilbur-Ellis, EPA Reg. No. 2935-48, DACO: 5.14
2235187	U.S. EPA, 1991, R.E.D. Facts Sulfur, United States Environmental Protection Agency, Pesticides and Toxic Substances (7508W), 738-F-91-110, May 1991, DACO: 5.14
2235188	Borhan, M.S., Hao, X., 2008, Development of a Natural Ventilation Model for a Tall, Gutter-Vented, Multi-Span Double-Layer Polyethylene Greenhouse, Acta Hort. 801: 481-486, DACO: 5.14

ISSN: 1911-8082

© Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada 2013

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.