

Evaluation Report for Category B, Subcategory 3.12 & 3.14 Application

Application Number: 2012-1454
Application: New to Product Labels- New Site or Host & Classifications
Product: DAC-QM
Registration Number: 31037
Active ingredients (a.i.): Didecyl Dimethyl Ammonium Chloride
PMRA Document Number: 2227217

Purpose of Application

The purpose of this application was to register a new end-use product, DAC-QM, for use as a heavy duty wood preservative in the treatment of nonindustrial wood products for above ground and ground contact. DAC-QM is a liquid wood preservative concentrate containing the active ingredient didecyl dimethyl ammonium chloride (DDAC) which would be combined with the currently registered copper source, NW 100-C Wood Preservative Concentrate Wood Preservative Concentrate (Registration Number 28634), to form the heavy duty wood preservative ACQ.

Chemistry Assessment

A chemistry assessment was not required for this application.

Health Assessments

DAC-QM is considered to be highly acutely toxic via the oral route of exposure, of low acute toxicity via the dermal route, and moderately acutely toxic via the inhalation route. It is considered to be a severe eye and skin irritant, but not a potential skin sensitizer.

The use of DAC-QM as a heavy duty wood preservative does not fit within the registered use pattern for DDAC. However, the proposed use pattern fits within the registered use pattern of didecyldimethylammonium present as carbonate and bicarbonate (DDA-Carbonate), which is toxicologically equivalent to DDAC. As such, the mixer/loader/applicator risk from the use of DAC-QM is not expected to exceed that from the use of registered products containing DDA-Carbonate. A postapplication risk assessment for individuals contacting wood treated with DAC-QM in residential areas was conducted and no risks of concern are expected when all label precautions and directions are followed.

Environmental Assessment

DAQ-QM contains DDAC as technical active which is currently registered for use as a wood preservative. Its tank mix partner, NW 100-C Wood Preservative Concentrate (copper as copper ethanalamine) is also currently registered for use as a wood preservative. The label contains adequate label statements including “Do not burn treated wood” to protect the environment. Use of the new formulation product, DAC-QM in combination with NW 100-C Wood Preservative Concentrate for the same uses is, therefore, not expected to pose additional environmental concerns.

Value Assessment

Efficacy data were submitted for soil block, soil bed, ground-contact stake tests and above-ground lap-joint and ground proximity tests. The field tests were not carried out using Canadian wood species at Canadian test sites, however the data demonstrated that DAC-QM tank mixed with NW 100-C Wood Preservative Concentrate at both mixing ratios on the label was effective at protecting against decay at the rates proposed in decay environments more severe than those found in Canada. In addition, treatability data were provided showing that commercial Canadian wood species could be treated to the retention rates shown to be effective, using the range of treatment solution concentrations on the label.

Overall, the submitted studies demonstrated that DAC-QM mixed with NW 100-C Wood Preservative Concentrate at a treatment solution strength of 0.5 to 3.4%, provided effective protection for lumber in ground contact at 6.4 kg/m³, at 4.0 kg/m³ for above-ground structural and at 2.0 kg/m³ for non-structural uses.

Conclusion

The PMRA has conducted a review of the available information and has approved the registration of DAC-QM for use as a heavy duty wood preservative.

References

PMRA #	Reference
2182673	Efficacy of Didecyldimethylammonium chloride (DDAC) in wood and on woody substrates. DACO 10.2.3
2182674	Data in support of ACQ Type A (1:1 ratio of CuO to quat). DACO 10.2.3
1348665	2006, Wipe Study to Define Dislodgeable or Transferable Residues in Wood Pressure Treated with a NW 100-C (ACQ-Type D Carbonate) Formulation, DACO: 5.6,5.9
1519053	2007, Wipe Study to Define Dislodgeable Residues in Wood Pressure Treated With an ACQ Type C Formulation, DACO: 5.6,5.9
1976541	2010, Wipe Study to Define Dislodgeable Residues on Lumber Treated with MCQ, DACO: 5.6,5.9
2182647	2012, A Discussion on The Applicability of ADBAC and DDA-Carbonate Wipe Test Data Sets to DDA-Chloride, DACO: 5.6,5.9
2305785	MCQ Wipe Study October 2011, DACO: 5.6,5.9
1431556	2007, Wipe Study to Define Dislodgeable Residues in Lumber Treated with FIM (OL-100), DACO: 5.6

ISSN: 1911-8082

© Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada 2014

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.