

Evaluation Report for Category B, Subcategory 1.2 Application

Application Number: 2016-0405
Application: New TGAI Product Chemistry – New Source (site) New Registrant
Product: NewAgco Clethodim Technical
Registration Number: 32783
Active ingredient (a.i.): Clethodim
PMRA Document Number: 2737475

Purpose of Application

The purpose of this application was to register a new source of the active ingredient clethodim by a new registrant.

Chemistry Assessment

Common Name: Clethodim
IUPAC* Chemical Name: (5*RS*)-2-[(1*EZ*)-1-[(2*E*)-3-chloroallyloxyimino]propyl]-5-[(2*RS*)-2-(ethylthio)propyl]-3-hydroxycyclohex-2-en-1-one
CAS† Chemical Name: 2-[1-[[[(2*E*)-3-chloro-2-propen-1-yl]oxy]imino]propyl]-5-[2-(ethylthio)propyl]-3-hydroxy-2-cyclohexen-1-one

* International Union of Pure and Applied Chemistry

† Chemical Abstracts Service

NewAgco Clethodim Technical has the following properties:

Property	Result
Colour and physical state	Amber liquid
Nominal concentration	97%
Odour	Pungent odour
Specific gravity	1.14
Vapour pressure	<0.01 mPa (at 20-25°C)
pH	4.15 – 4.31
Solubility in water	5.52 g/L (20°C, pH 7)
n-Octanol/water partition coefficient	Log K _{ow} = 4.14 (pH 3.05)

The required chemistry data for NewAgco Clethodim Technical have been provided, reviewed, and found to be acceptable.

Health, Environmental and Value Assessments

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

Conclusion

The Pest Management Regulatory Agency has completed an assessment of the information provided and has found the information sufficient to support the registration of NewAgco Clethodim Technical.

References

PMRA Document Number	References
2601990	2012, Five-batch Analysis of Clethodim TGAI -Validation of Analytical Methodology for the Assay of Active Ingredient and Impurities in Clethodim TGAI and Subsequent 5-Batch Analysis of the Test Item, DACO: 2.12.1, 2.13.2, 2.13.3 CBI
2601991	2012, Physical and Chemical Characterization of Clethodim TGAI[Privacy removed], DACO: 2.14.1, 2.14.10, 2.14.12, 2.14.15, 2.14.2, 2.14.3, 2.14.6, 2.14.7, 2.14.8 CBI
2616742	2013, 5 Batch Analysis of Clethodim and main impurities in Clethodim TC, DACO: 2.13.3 CBI
2601989	2013, Analytical method validation for the active ingredient clethodim in technical product, DACO: 2.13.1 CBI
2691886	2013, Five-batch Analysis of Clethodim TGAI - Final Report Amendment No. 1, DACO: 2.13.2 CBI
2691887	2013, Five-batch Analysis of Clethodim TGAI - Final Report Amendment No. 2, DACO: 2.13.2 CBI
2602002	2014, Boiling Point of Clethodim TC, DACO: 2.14.5 CBI
2601994	2014, Clethodim TC: Determination Relative Density, DACO: 2.14.6 CBI
2601996	2014, Clethodim TC: Determination Solvent Solubilty, DACO: 2.14.8 CBI
2601995	2014, Clethodim TC: Determination Water Solubilty, DACO: 2.14.7 CBI
2601992	2014, Clethodim TC: Determination of Appearance (Color, Physical State and Odor), DACO: 2.14.1, 2.14.2, 2.14.3 CBI
2601997	2014, Clethodim TC: Determination of Dissociation Constants in Water, DACO: 2.14.10 CBI
2601993	2014, Clethodim TC: Determination of Melting/Freezing Temperature, DACO: 2.14.4 CBI
2601998	2014, Clethodim TC: Determination of Partition Coefficient, DACO: 2.14.11 CBI
2601999	2014, Clethodim TC: Determination of Thermal Stability and Stability in Air, DACO: 2.14.13, 2.14.14 CBI
2602001	2014, Clethodim TC: Determination of Vapor Pressure, DACO: 2.14.9 CBI
2602000	2014, Clethodim TC: Determination of pH, DACO: 2.14.15 CBI
2601986	2016, Chemistry Requirements (General Info), DACO: 2.1, 2.2, 2.3, 2.3.1, 2.4, 2.5, 2.6, 2.7, 2.8, 2.9 CBI
2696032	2016, [CBI Removed], DACO: 2.13.2 CBI
2660983	2016, Clethodim Technical revised manufacturing process, DACO: 2.11
2601988	2016, Formation of Impurities For Clethodim Technical, DACO: 2.11.4 CBI
2696033	2016, [CBI Removed], DACO: 2.13.2 CBI
2687220	2016, MSDS for Raw material of Clethodim, DACO: 2.11 CBI
2616741	2016, Manufacturing Methods For the TGAI, DACO: 2.11 CBI
2601987	2016, Manufacturing Process Clethodim Technical, DACO: 2.11.1, 2.11.2, 2.11.3 CBI
2696031	2016, Standards for Impurities, DACO: 2.13.2 CBI

2687222 2016, Study for [CBI Removed] Analysis of Clethodim Tcehnical Batches,
DACO: 2.13.4 CBI
2714385 2013, The synthesis and impurities formation of Clethodim Technical, DACO:
2.11

ISSN: 1911-8082

**8 Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services
Canada 2016**

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.