

Evaluation Report for Category B, Subcategory 1.1 Application

Application Number: 2012-1594
Application: B.1.1 (Product Chemistry – new source (site) same registrant)
Product: Mesotrione Technical Herbicide
Registration Number: 27831
Active ingredients (a.i.): Mesotrione (MER)
PMRA Document Number : 2233624

Purpose of Application

The purpose of this application was to add a new source for the production of Mesotrione Technical Herbicide.

Chemistry Assessment

Common Name: Mesotrione
IUPAC Chemical Name: 2-(4-mesyl-2-nitrobenzoyl)cyclohexane-1,3-dione
CAS Chemical Name: 2-[4-(methylsulfonyl)-2-nitrobenzoyl]-1,3-cyclohexanedione

Mesotrione Technical Herbicide has the following properties:

Property	Result
Colour and physical state	Light tan or sand coloured solid
Nominal concentration	96.8 %
Odour	Slight odour, sweet
Density	1.46 g/mL
Vapour pressure	$<5.7 \times 10^{-6}$ Pa at 20°C
pH	3.4
Solubility in water	160 mg/L at 20 °C
n-Octanol/water partition coefficient	$\log K_{ow} = 0.11$ (unbuffered solution)

The chemistry requirements for Mesotrione Technical Herbicide are complete.

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 available information and is able to support the addition of a new source for the production of Mesotrione Technical Herbicide.

References

- 2184272 Description of Materials Used to Produce the Product(Continued), DACO: 2.11.2 CBI
- 2184270 Mesotrione Technical Herbicide - Manufacturing Description, DACO: 2.11.1,2.11.3 CBI
- 2184273 Discussion of Formation of Impurities, DACO: 2.11.4 CBI
- 2184284 2003, Confirmation of structures of mesotrione and related by-products by mass spectroscopy - Final Report, DACO: 2.13.2 CBI
- 2184275 2004, Analytical Method AF-1467/2 - ZA1296 Content in Mesotrione Technical Wet Paste by HPLC, DACO: 2.13.1 CBI
- 2184276 2007, Statement on The Validation of Analytical Method AF-1467/2 for ZA1296 Content in Mesotrione Technical Wet Paste, DACO: 2.13.1 CBI
- 2184279 2003, Analytical Method AK-224/1 - Determination of by-products in mesotrione manufacturing use product (ZA1296), DACO: 2.13.1 CBI
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- 2184282 2008, Analytical Method SI-46/1 - Determination of R287431 in ZA-1296 by HPLC/Mass Spectrometry, DACO: 2.13.1 CBI
- 2184283 2011, Validation of Analytical Method SI-46/1 - Determination of R287431 in ZA-1296 by HPLC/Mass Spectrometry - Final Report, DACO: 2.13.1 CBI
- 2184286 2011, Mesotrione wet paste (ZA1296D) - Analysis of five representative batches produced at [privacy information removed] - Final Report, DACO: 2.13.3 CBI

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