

Evaluation Report for Category B, Subcategory 1.3 Application

Application Number: 2017-5974
Application: New / Changes TGAI or ISP Product Chemistry - Specifications
Product: Mesotrione Technical Herbicide
Registration Number: 27831
Active ingredient (a.i.): Mesotrione
PMRA Document Number: 2877816

Purpose of Application

The purpose of this application was to update the product specifications of Mesotrione Technical Herbicide to reflect new batch data.

Chemistry Assessment

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

* International Union of Pure and Applied Chemistry

† Chemical Abstracts Service

Mesotrione Technical Herbicide has the following properties:

Property	Result										
Colour and physical state	Light tan solid										
Nominal concentration	96.8% (based on dry weight)										
Odour	Slight odour, sweet										
Density	1.46 g/mL										
Vapour pressure	$< 5.7 \times 10^{-3}$ mPa (at 20°C)										
pH	3.4										
Solubility in water at 20°C	<table border="0"> <tr> <td><u>pH</u></td> <td><u>Solubility (g/L)</u></td> </tr> <tr> <td>unbuffered</td> <td>0.16</td> </tr> <tr> <td>4.8</td> <td>2.2</td> </tr> <tr> <td>6.9</td> <td>15</td> </tr> <tr> <td>9</td> <td>22</td> </tr> </table>	<u>pH</u>	<u>Solubility (g/L)</u>	unbuffered	0.16	4.8	2.2	6.9	15	9	22
	<u>pH</u>	<u>Solubility (g/L)</u>									
	unbuffered	0.16									
	4.8	2.2									
	6.9	15									
9	22										

Property	Result	
n-Octanol/water partition coefficient	pH	$\text{Log } K_{ow}$
	unbuffered	0.11
	5	-1.076
	7, 9	< -1

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

Health Assessments

The updated product specifications did not result in changes of toxicological concern. Subsequently, no new toxicological data were submitted or required for this application.

Occupational and dietary exposure assessments were not required for this application.

Environmental and Value Assessments

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 update the product specifications of Mesotrione Technical Herbicide.

References

PMRA Document Number	Reference
2810841	2017, Mesotrione Technical (ZA1296) - Document J - Product Chemistry Volume, DACO: 2.11.1, 2.11.2, 2.11.3, 2.11.4, 2.12.1, 2.12.2, 2.13.3, 2.13.4, 2.2 CBI
2850481	2018, Mesotrione Technical (ZA1296) - Document J, DACO: 2.2 CBI

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