



## Evaluation Report for Category B, Subcategory 4.6 Application

**Application Number:** 2017-7711  
**Application:** Submission to fulfill conditions of registration  
**Product:** Spinetoram Technical Insecticide  
**Registration Number:** 28776  
**Active ingredient (a.i.):** Spinetoram  
**PMRA Document Number :** 2914104

### Purpose of Application

The purpose of this application was to provide commercial batch data to fulfill the requirements of registration for the product Spinetoram Technical Insecticide.

### Chemistry Assessment

Common Name: Spinetoram

IUPAC\* Chemical Name: 3'-O-ethyl-5,6-dihydro-spinosyn J (XDE-175-J )  
(2*R*,3*aR*,5*aR*,5*bS*,9*S*,13*S*,14*R*,16*aS*,16*bR*)-2-(6-deoxy-3-*O*-ethyl-2,4-di-*O*-methyl- $\alpha$ -L-mannopyranosyloxy)-13-[(2*R*,5*S*,6*R*)-5-(dimethylamino)tetrahydro-6-methylpyran-2-yloxy]-9-ethyl-2,3,3*a*,4,5,5*a*,5*b*,6,9,10,11,12,13,14,16*a*,16*b*-hexadecahydro-14-methyl-1*H*-as-indaceno[3,2-*d*]oxacyclododecine-7,15-dione  
and  
3'-O-ethyl-spinosyn L (XDE-175-L)  
(2*S*,3*aR*,5*aS*,5*bS*,9*S*,13*S*,14*R*,16*aS*,16*bS*)-2-(6-deoxy-3-*O*-ethyl-2,4-di-*O*-methyl- $\alpha$ -L-mannopyranosyloxy)-13-[(2*R*,5*S*,6*R*)-5-(dimethylamino)tetrahydro-6-methylpyran-2-yloxy]-9-ethyl-2,3,3*a*,5*a*,5*b*,6,9,10,11,12,13,14,16*a*,16*b*-tetradecahydro-4,14-dimethyl-1*H*-as-indaceno[3,2-*d*]oxacyclododecine-7,15-dione

CAS† Chemical Name: 3'-O-ethyl-5,6-dihydro-spinosyn J (XDE-175-J )  
1*H*-as-Indaceno[3,2-*d*]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-*O*-ethyl-2,4-di-*O*-methyl- $\alpha$ -L-mannopyranosyl)oxy]-13-[[[(2*R*,5*S*,6*R*)-5-(dimethylamino)tetrahydro-6-methyl-2*H*-pyran-2-yl]oxy]-9-ethyl-2,3,3*a*,4,5,5*a*,5*b*,6,9,10,11,12,13,14,16*a*,16*b*-hexadecahydro-14-methyl-, (2*R*,3*aR*,5*aR*,5*bS*,9*S*,13*S*,14*R*,16*aS*,16*bR*)  
and  
3'-O-ethyl-spinosyn L (XDE-175-L)  
1*H*-as-Indaceno[3,2-*d*]oxacyclododecin-7,15-dione, 2-[(6-deoxy-3-*O*-ethyl-2,4-di-*O*-methyl- $\alpha$ -L-mannopyranosyl)oxy]-13-[[[(2*R*,5*S*,6*R*)-5-(dimethylamino)tetrahydro-6-methyl-2*H*-pyran-2-yl]oxy]-9-ethyl-

2,3,3a,5a,5b,6,9,10,11,12,13,14,16a,16b-tetradecahydro-4,14-dimethyl-, (2*S*,3a*R*,5a*S*,5b*S*,9*S*,13*S*,14*R*,16a*S*,16b*S*)

\* International Union of Pure and Applied Chemistry

† Chemical Abstracts Service

Spinetoram Technical Insecticide has the following properties:

Property	Result																								
Colour and physical state	Solid off-white																								
Nominal concentration	86.4%																								
Odour	Musty odour																								
Density	1.14 – 1.19 g/mL																								
Vapour pressure	XDE-175-J 5.3 × 10 <sup>-5</sup> Pa at 20°C XDE-175-L 2.1 × 10 <sup>-5</sup> Pa at 20°C																								
pH	6 – 7 (1% dispersion)																								
Solubility in water	XDE-175-J <table border="0"> <thead> <tr> <th><u>Solution</u></th> <th><u>Solubility (mg/L)</u></th> </tr> </thead> <tbody> <tr> <td>Purified water</td> <td>10.0</td> </tr> <tr> <td>pH 5 buffer</td> <td>423</td> </tr> <tr> <td>pH 7 buffer</td> <td>11.3</td> </tr> <tr> <td>pH 9 buffer</td> <td>8.0</td> </tr> <tr> <td>pH 10 buffer</td> <td>6.27</td> </tr> </tbody> </table> XDE-175-L <table border="0"> <thead> <tr> <th><u>Solution</u></th> <th><u>Solubility (mg/L)</u></th> </tr> </thead> <tbody> <tr> <td>Purified water</td> <td>31.9</td> </tr> <tr> <td>pH 5 buffer</td> <td>1.63 g/L</td> </tr> <tr> <td>pH 7 buffer</td> <td>46.7</td> </tr> <tr> <td>pH 9 buffer</td> <td>1.98</td> </tr> <tr> <td>pH 10 buffer</td> <td>0.706</td> </tr> </tbody> </table>	<u>Solution</u>	<u>Solubility (mg/L)</u>	Purified water	10.0	pH 5 buffer	423	pH 7 buffer	11.3	pH 9 buffer	8.0	pH 10 buffer	6.27	<u>Solution</u>	<u>Solubility (mg/L)</u>	Purified water	31.9	pH 5 buffer	1.63 g/L	pH 7 buffer	46.7	pH 9 buffer	1.98	pH 10 buffer	0.706
<u>Solution</u>	<u>Solubility (mg/L)</u>																								
Purified water	10.0																								
pH 5 buffer	423																								
pH 7 buffer	11.3																								
pH 9 buffer	8.0																								
pH 10 buffer	6.27																								
<u>Solution</u>	<u>Solubility (mg/L)</u>																								
Purified water	31.9																								
pH 5 buffer	1.63 g/L																								
pH 7 buffer	46.7																								
pH 9 buffer	1.98																								
pH 10 buffer	0.706																								

Property	Result
n-Octanol/water partition coefficient	XDE-175-J
	<u>pH</u> <u>log Kow</u>
	5          2.44
	7          4.09
	9          4.22
	XDE-175-L
	<u>pH</u> <u>log Kow</u>
	5          2.94
	7          4.49
	9          4.82

The conditions of registration for this product included the provision of commercial batch data. Data to fulfill these conditions were provided, reviewed and found to be acceptable. As such, the chemistry requirements for Spinetoram Technical Insecticide have been fulfilled.

### **Value, Health and Environmental Assessments**

Value, health and environmental assessments were not required for this application.

### **Conclusion**

The Pest Management Regulatory Agency has completed an assessment of the information provided, and has found it sufficient to fulfill the requirements of registration for the product Spinetoram Technical Insecticide.

### **References**

#### **PMRA**

#### **Document**

<b>Number</b>	<b>Reference</b>
---------------	------------------

2832528	2017, Batch Data, DACO: 2.13.3 CBI
---------	------------------------------------

ISSN: 1911-8082

© Her Majesty the Queen in Right of Canada, represented by the Minister of Public Works and Government Services Canada 2018

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.