



Evaluation Report for Category B, Subcategory 1.1 Application

Application Number: 2022-2052
Application: Changes to Technical Grade Active Ingredient Product Chemistry-
New Source (site) same registrant
Product: Abamectin Technical
Registration Number: 24484
Active ingredient (a.i.): Abamectin
PMRA Document Number: 3497282

Purpose of Application

The purpose of this application was to add a new manufacturing site for the technical grade active ingredient, Abamectin Technical.

Chemistry Assessment

Common Name: abamectin

IUPAC* Chemical Name: extended von Baeyer nomenclature: mixture of 80–100%
(10*E*,14*E*,16*E*)-
(1*R*,4*S*,5'*S*,6*S*,6'*R*,8*R*,12*S*,13*S*,20*R*,21*R*,24*S*)-6'-[(*S*)-*sec*-
butyl]-21,24-dihydroxy-5',11,13,22-tetramethyl-2-oxo-
(3,7,19-trioxatetracyclo[15.6.1.1^{4,8}.0^{20,24}]pentacosa-
10,14,16,22-tetraene)-6-spiro-2'-(5',6'-dihydro-2'*H*-pyran)-
12-yl 2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-
arabino-hexopyranosyl)-3-*O*-methyl- α -L-*arabino*-
hexopyranoside
and
20–0% (10*E*,14*E*,16*E*)-
(1*R*,4*S*,5'*S*,6*S*,6'*R*,8*R*,12*S*,13*S*,20*R*,21*R*,24*S*)-21,24-
dihydroxy-6'-isopropyl-5',11,13,22-tetramethyl-2-oxo-
(3,7,19-trioxatetracyclo[15.6.1.1^{4,8}.0^{20,24}]pentacosa-
10,14,16,22-tetraene)-6-spiro-2'-(5',6'-dihydro-2'*H*-pyran)-
12-yl 2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-
arabino-hexopyranosyl)-3-*O*-methyl- α -L-*arabino*-
hexopyranoside

OR

bridged fused ring systems nomenclature: mixture of 80–
100% (2*aE*,4*E*,8*E*)-
(5'*S*,6*S*,6'*R*,7*S*,11*R*,13*S*,15*S*,17*aR*,20*R*,20*aR*,20*bS*)-6'-[(*S*)-
sec-butyl]-

5',6,6',7,10,11,14,15,17a,20,20a,20b-dodecahydro-20,20b-dihydroxy-5',6,8,19-tetramethyl-17-oxospiro[11,15-methano-2*H*,13*H*,17*H*-furo[4,3,2-*pq*][2,6]benzodioxacyclooctadecin-13,2'-[2*H*]pyran]-7-yl 2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-arabino-hexopyranosyl)-3-*O*-methyl- α -L-arabino-hexopyranoside and 20-0% (2*aE*,4*E*,8*E*)-(5'*S*,6*S*,6'*R*,7*S*,11*R*,13*S*,15*S*,17*aR*,20*R*,20*aR*,20*bS*)-5',6,6',7,10,11,14,15,17a,20,20a,20b-dodecahydro-20,20b-dihydroxy-6'-isopropyl-5',6,8,19-tetramethyl-17-oxospiro[11,15-methano-2*H*,13*H*,17*H*-furo[4,3,2-*pq*][2,6]benzodioxacyclooctadecin-13,2'-[2*H*]pyran]-7-yl 2,6-dideoxy-4-*O*-(2,6-dideoxy-3-*O*-methyl- α -L-arabino-hexopyranosyl)-3-*O*-methyl- α -L-arabino-hexopyranoside

CAS† Chemical Name: avermectin B₁
 mixture of B1a: 5-*O*-demethylavermectin A_{1a}
 with
 B1b: 5-*O*-demethyl-25-de(1-methylpropyl)-25-(1-methylethyl)avermectin A_{1a}

* International Union of Pure and Applied Chemistry

† Chemical Abstracts Service

Abamectin Technical has the following properties:

Property	Result
Colour and physical state	Off-white to slightly yellow solid
Nominal concentration	92.1 %
Odour	Slight alcoholic solvent odour
Density	1.16 g/cm ³
Vapour pressure	< 0.2 x 10 ⁻³ mPa (25°C)
pH	NA
Solubility in water	0.0203 mg/L
n-Octanol/water partition coefficient	log K _{ow} = 4.4 (pH 7.2)

The required chemistry data for Abamectin 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 acceptable to support the addition of a new manufacturing site for the technical grade active ingredient, Abamectin Technical.

References

PMRA

Document

Number

Reference

3354754

2022, Abamectin Technical (MK936) - Manufacturing Process Description and Supporting Data, DACO: 2.1,2.11,2.11.1,2.11.2,2.11.3,2.11.4,2.12,2.12.1,2.13,2.13.1,2.13.2,2.13.3,2.13.4,2.2,2.3,2.4,2.5,2.6,2.7,2.8,2.9 CBI

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2022, Confidential Statement [CBI Removed] in Technical Material, DACO: 2.11,2.13.4 CBI

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