Competent Authority Report

Bardap 26



DOCUMENT III-A

Study Summaries Active Substance

Addendum to Section 7

Rapporteur Member State: Italy

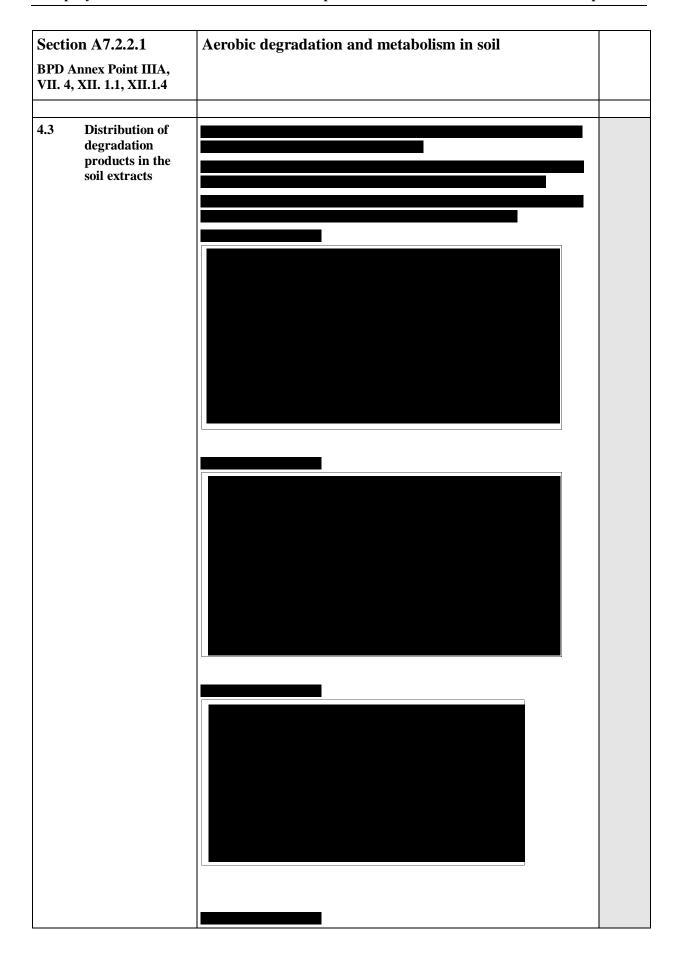
April 2021

BPD A	on A7.2.2.1 Annex Point IIIA, , XII. 1.1, XII.1.4	Aerobic degradation and metabolism in soil	
		1 REFERENCE	Official use only
1.1	Reference	[N-methyl-14C]Bardap 26 Aerobic Degradation and Metabolism in four Soils at 20 °C in the Dark, Report Amendment 1, [N-methyl-14C]Bardap	
		26 Aerobic Degradation and Metabolism in four Soils at 20 °C in the Dark,	
		Bardap 26 – Kinetic Modelling and Evaluation of Data from Laboratory Aerobic Soil Degradation Studies for Persistence Endpoints,	
		Bardap 26 – Summary of Soil and Aquatic System Degradation Data in a Regulatory Context.	
1.2	Data protection	Yes	
1.2.1	Data owner	Lonza Cologne GmbH	
1.2.2	Criteria for data protection	Article 60 of Regulation 528/2012, on data protection periods for data submitted for the purposes of Directive 98/8/EC or Regulation 528/2012.	
		2 GUIDELINES AND QUALITY ASSURANCE	
2.1	Guideline study	OECD 307; Aerobic and Anaerobic transformation in soil systems	
2.2	GLP	Yes	
2.3	Deviations	No	X
		3 MATERIALS AND METHODS	
3.1	Test material	Common name: [N-methyl-14C]Bardap 26	
		Chemical name: N,N –Didecyl – N- (¹⁴ C) methyl- N-(oxyethyl) ammonium propionate	
3.1.1	Lot/Batch number		
3.1.2	Purity		
3.1.3	Further relevant properties		
3.1.4	Position of radiolabel		
3.1.5	Method of analysis (of the		

BPD A	on A7.2.2.1 Annex Point IIIA, XII. 1.1, XII.1.4	Aerobic degradation and metabolism in soil	
	radiolabelled test item)		
3.2	Analysis of test item and degradation products in study	-	
3.2.1	Method of analysis for test item		

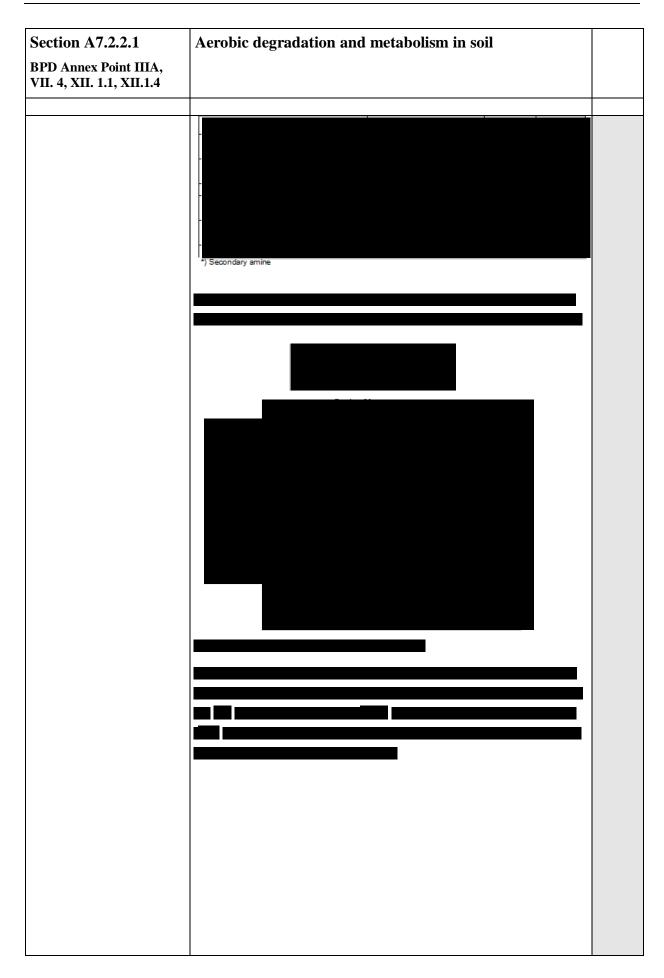
Section A7.2.2.1 BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4		Aerobic degradation and metabolism in soil	
3.2.2	Method of analysis for degradation products		
	~		
3.3	Soil types	See table A7.2.1-2.	
3.4 3.4.1	Test system	-	
3.4.1	Test system		
3.5	Test performance	-	
3.5.1	Preliminary test	n/a	
3.5.2	Dose rates		

Section A'	7.2.2.1	Aerobic degradation and metabolism in soil	
BPD Annex VII. 4, XII.	Point IIIA,		
3.5.3 Lim	nit of detection		
		4 RESULTS	
4.1 Pre		n/a	
4.2 Ext	ractable		
resi	dues		



Section A7.2.2.1	Aerobic degradation and metabolism in soil	
BPD Annex Point III VII. 4, XII. 1.1, XII.1	A, .4	
4.4 Mass balance (recovery of		
4.5 Degradation	rate	

Section A7.2.2.1	ection A7.2.2.1 Aerobic degradation and metabolism in soil		
BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4			
4.6 Degradation product(s)			



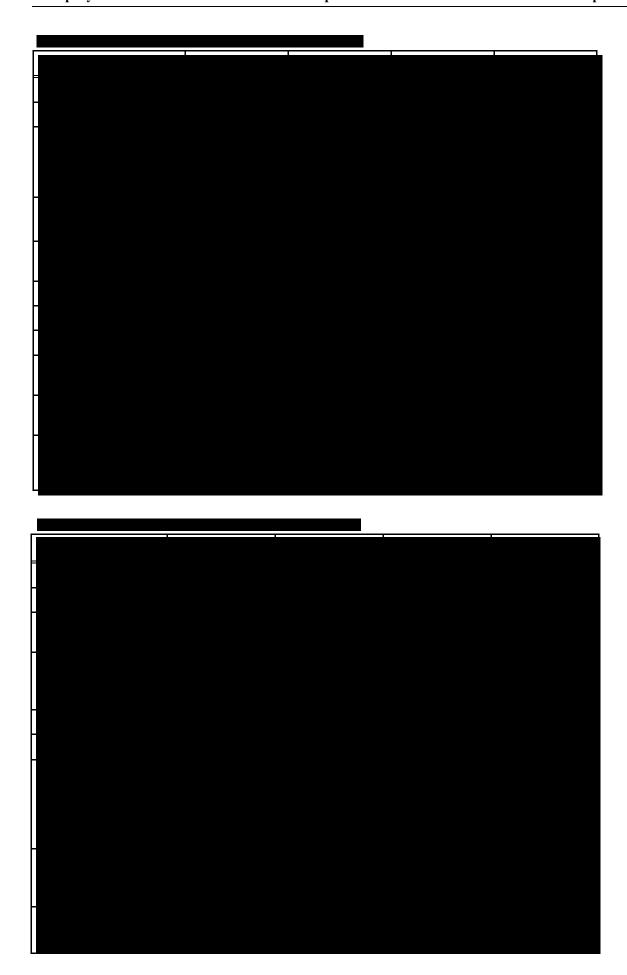
Section A7.2.2.1	Aerobic degradation and metabolism in soil	
BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4		
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	5 APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods		

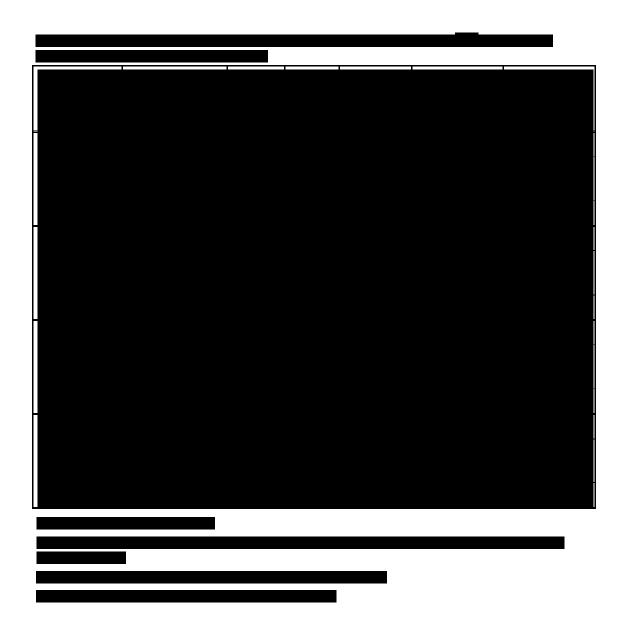
Section A7.2.2.1 BPD Annex Point IIIA,	Aerobic degradation and metabolism in soil
VII. 4, XII. 1.1, XII.1.4	

Section A7.2.2.1	Aerobic degradation and metabolism in soil	
BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4		

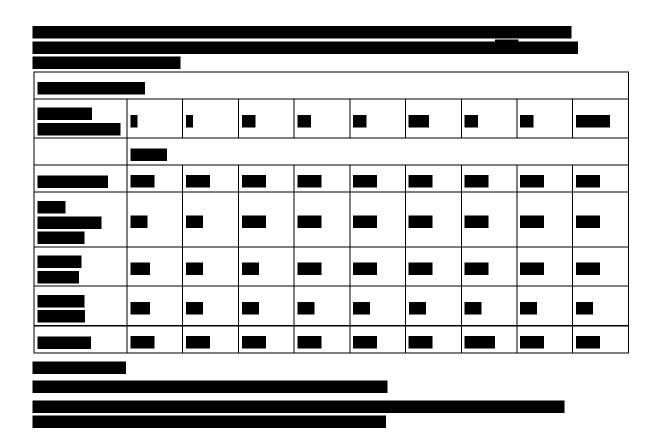
Section A7.2.2.1 BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4		Aerobic degradation and metabolism in soil	
VII. 4	, XII. 1.1, XII.1.4		
5.2	Results and discussion		
5.2.1	Degradation		
	products (% of AR.)		
	AR.)		
5.3	Conclusion	[N-methyl-14C]Bardap 26 degraded under aerobic laboratory conditions, with a typical half-live of 14.6, 10.8, 16.2 and 28.2 days in soil extracts	
		for the soils Lufa 2.1, Lufa 2.2, Lufa 2.3 and Lufa 2.4, respectively.	
		Metabolite M1a reached up to 29.4% and 12.7% AR in the soils Lufa 2.1 and Lufa 2.2, respectively. Metabolites H6 and H10 were observed at higher than 5% AR but less than 10% AR during the study.	
		H6 was identified but it was not possible to identify H10.	
		Up to 12 minor transformation products occurred during the incubation	

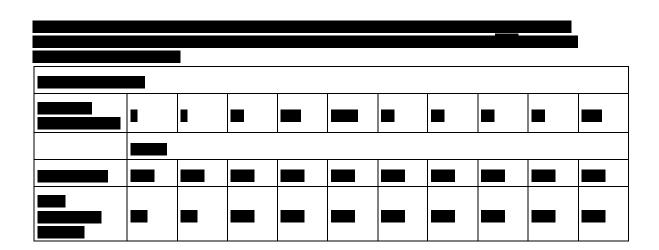
Section A7.2.2.1	Aerobic degradation and metabolism in soil	
BPD Annex Point IIIA, VII. 4, XII. 1.1, XII.1.4		
5.3.1 Reliability		
5.3.1 Reliability 5.3.2 Deficiencies	<u>•</u>	
5.5.2 Deficiencies	—	
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	October 2019	
Materials and Methods	Adopt applicant's version	
Results and discussion	Adopt applicant's version	
Conclusion	Adopt applicant's version. The WG agreed with the DT50 value calculated by applicant (geometric mean of the 4 soils investigated): 31 days at 12°C.	
Reliability	The reliability indicator is appropriate.	
Acceptability	acceptable	
Remarks	X	
	COMMENTS FROM	
Date	Give date of comments submitted	
Materials and Methods		
Results and discussion	Discuss if deviating from view of rapporteur member state	
Conclusion Discuss if deviating from view of rapporteur member state		
Reliability	Discuss if deviating from view of rapporteur member state	
Acceptability	Discuss if deviating from view of rapporteur member state	
Remarks		

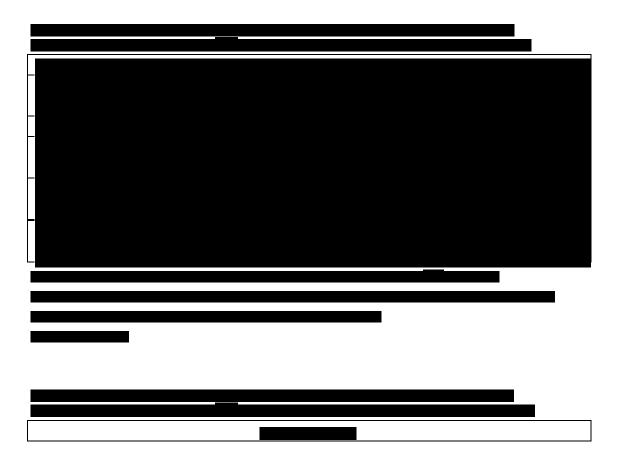




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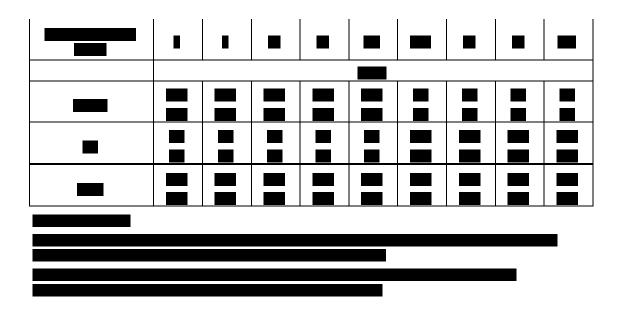
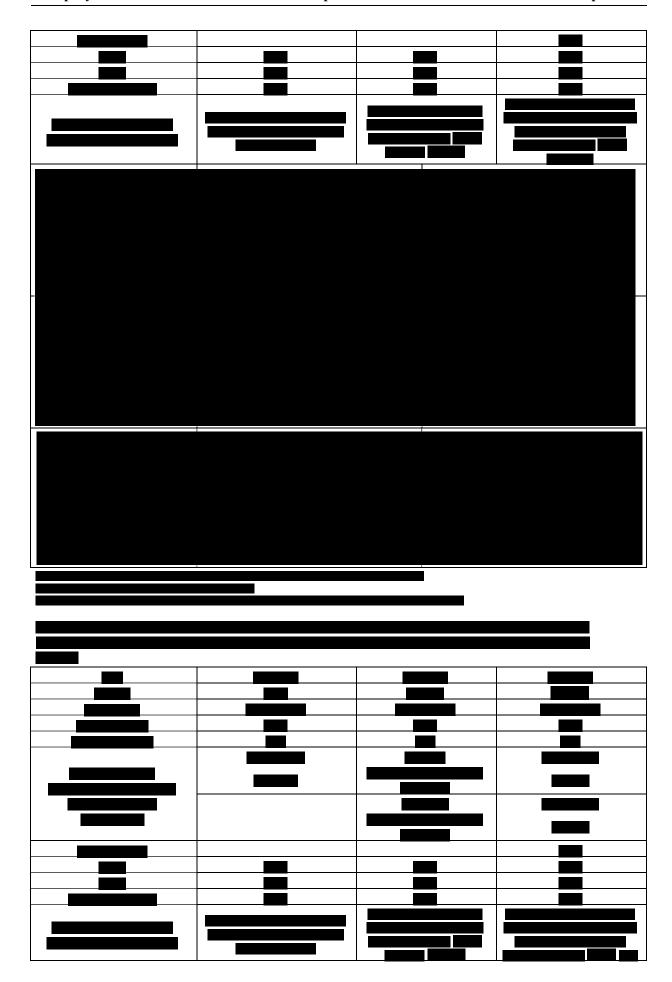
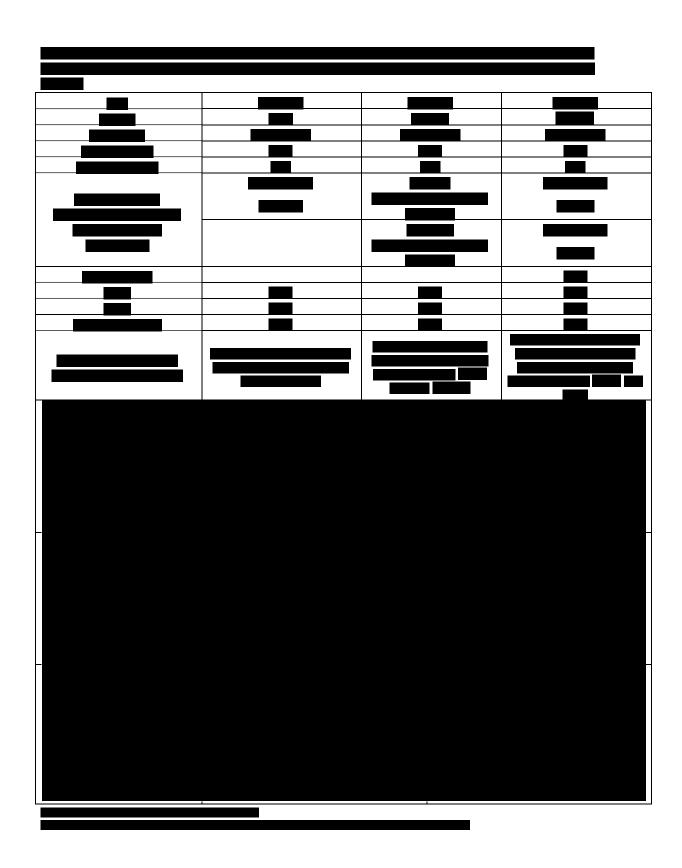


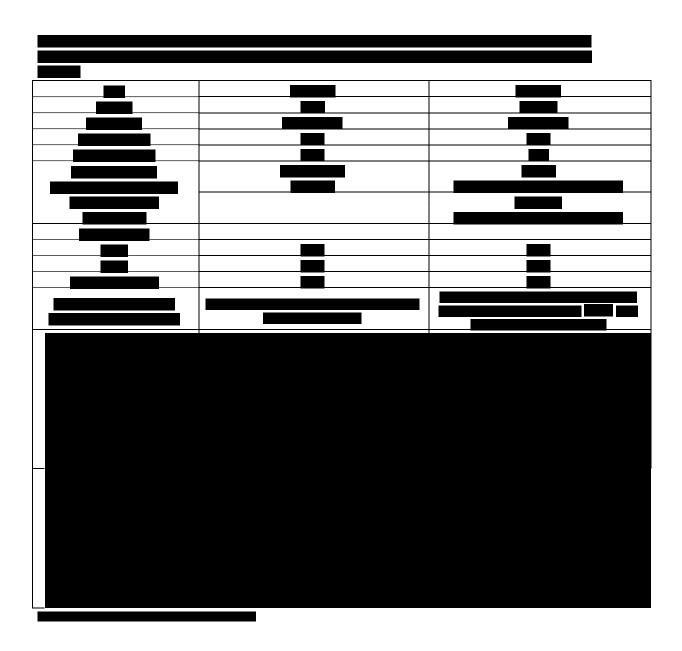
Table A7.2.1-13: Characterisation of the extractable radioactivity in % of the applied radioactivity (AR) of [N-methyl-14C]Bardap 26 in the Lufa 2.4 soil system

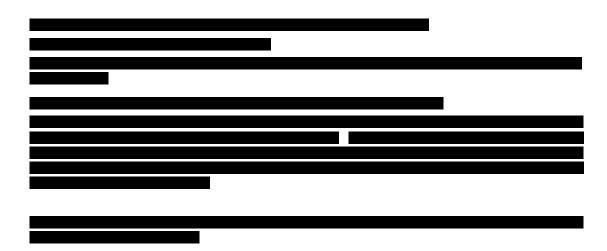
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Bardap 26

Company Name: Lonza AG

April 2021

Conclusion by WG: the DT50 value (geometric mean of the 4 soils investigated) is 31 days at 12° C.

	n A7.1.2.2.2 Annex Point IIIA, 1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section	on A7.1.2.2.2	Aerobic Degradation and Metabolism in two	
BPD A	Annex Point IIIA, 1	Water/Sediment Systems	
		6 REFERENCE	Official use only
6.1	Reference	[N-methyl-14C] Bardap 26 Aerobic Degradation and Metabolism in two Water/Sediment Systems,	
		Report Amendment 1, [N-methyl-14C] Bardap 26 Aerobic Degradation and Metabolism in two Water/Sediment Systems,	
		Systems,	
		Bardap 26 – Kinetic Modelling Evaluation of Data from a Water Sediment Study for Persistence Endpoints at Level PI,	
		(2019c). Bardap 26 – Summary of Soil and Aquatic System Degradation Data in a Regulatory Context.	
6.2	Data protection	Yes	
6.2.1	Data owner	Lonza Cologne GmbH	
6.2.2	Criteria for data protection	Article 60 of Regulation 528/2012, on data protection periods for data submitted for the purposes of Directive 98/8/EC or Regulation 528/2012.	
		7 GUIDELINES AND QUALITY ASSURANCE	
7.1	Guideline study	OECD 308; Aerobic and Anaerobic Transformation in Aquatic Sediment Systems	
7.2	GLP	Yes	
7.3	Deviations	No	
		8 MATERIALS AND METHODS	
8.1	Test material	Common name: [N-methyl-14C]Bardap 26	
		Chemical name: N,N –Didecyl – N- (¹⁴ C) methyl- N-(oxyethyl) ammonium propionate	
8.1.1	Lot/Batch number		
8.1.2	Purity		
8.1.3	Further relevant properties		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1		Aerobic Degradation and Metabolism in two Water/Sediment Systems	
	on A7.1.2.2.2 Annex Point IIIA, 1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
8.1.4	Position of radiolabel		
8.1.5	Method of analysis (of the radiolabelled test item)		
8.2	Analysis of test item and degradation products in study	-	
8.2.1	Method of analysis for test item		

	n A7.1.2.2.2 Annex Point IIIA, 1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
	on A7.1.2.2.2 Annex Point IIIA,	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
8.2.2	Method of analysis for degradation products		
8.3	Testing procedure	-	
8.3.1	Test system		
8.3.2	Test conditions		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
8.4 Test performance		
	n/a	
8.4.1 Preliminary test 8.4.2 Dose rates		

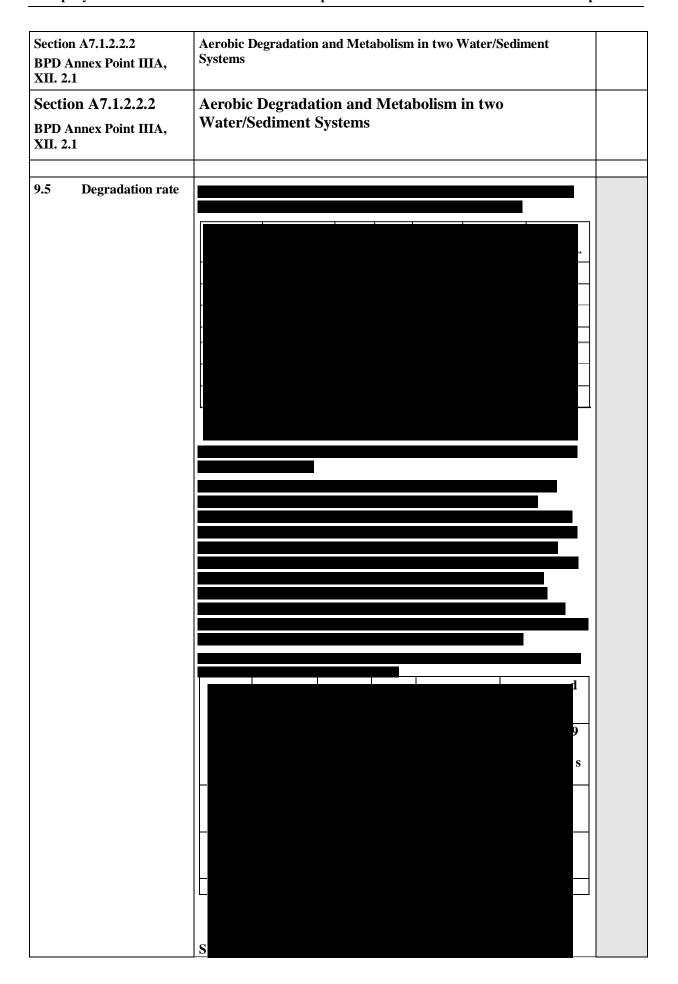
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
8.4.3 Limit of detection		
	9 RESULTS	
9.1 Preliminary test		
9.2 Distribution of radioactivity in		
water-sediment systems		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
9.3 Characterisation of radioactivity in water-sediment systems		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
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Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
9.4 Mass balance (recovery of AR)		



Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems		
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems		
9.6 Degradation product(s)			

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2	Aerobic Degradation and Metabolism in two	
BPD Annex Point IIIA, XII. 2.1	Water/Sediment Systems	
	on the molecular structure.	
	See table A7.1.2.2.2-15 for details of the metabolite %AR in the water phase.	
	The following metabolic pathway is proposed by the results of the study:	
10.1	10 APPLICANT'S SUMMARY AND CONCLUSION	
10.1 Materials and methods		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	

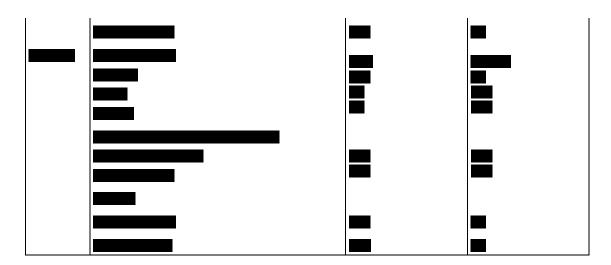
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
10.2.1 Degradation products (% of AR.)		

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
10.3 Conclusion	Bardap 26 was degraded in both systems under aerobic laboratory conditions, with typical half-lives of 4.4 (1WS Pfalz) and 1.2 days (2 WS Weißach) in the water phase, 25.9 (1WS Pfalz) and 25.3 days (2WS Weißach) in the sediment extract and 45.9 (1WS Pfalz) and 24.6 days (2WS Weißach) in the total system. The mean recoveries for the higher sampling times (from 61 days on) were sometimes below 90 % of the applied radioactivity. The low recoveries result out of CO ₂ lost in the samples and has no effect on the outcome of this study. In both systems one major transformation product evolved during the study. M1 reached maximum values of 43 % AR (1WS water phase), 0.4 % AR (1WS sediment extract), 46.7 % AR (2WS water phase) and 2.2 % AR (2WS sediment extract). The identification of M1 via mass spectrometry revealed four major metabolites within the M1 signal. Three could be identified as M1a, M1b and M1c. One metabolite could not be identified but can be characterized as more polar than M1a, M1b, and M1c. It is proposed that M1d is a structure with shorter C-chains, an	
10.3.1 Reliability	oxidation product of the N-oxyethyl moiety, or both.	
10.3.2 Deficiencies		
10.3.2 Deficiencies		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	20/12/2018	
Materials and Methods	Adopt applicant's version	
Results and discussion	Adopt applicant's version	
Conclusion	Adopt applicant's version	
Reliability	The reliability indicator is appropriate	
Acceptability	acceptable	
Remarks		
	COMMENTS FROM	

Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Section A7.1.2.2.2 BPD Annex Point IIIA, XII. 2.1	Aerobic Degradation and Metabolism in two Water/Sediment Systems	
Date	Give date of comments submitted	
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state	
Results and discussion	Discuss if deviating from view of rapporteur member state	
Conclusion	Discuss if deviating from view of rapporteur member state	
Reliability	Discuss if deviating from view of rapporteur member state	
Acceptability	Discuss if deviating from view of rapporteur member state	
Remarks		







Company Name: Lonza	AG Bardap 26	April 2021

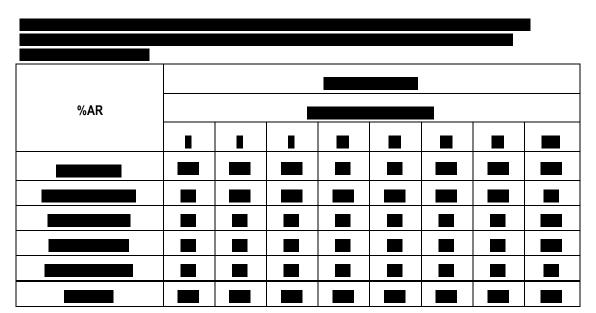
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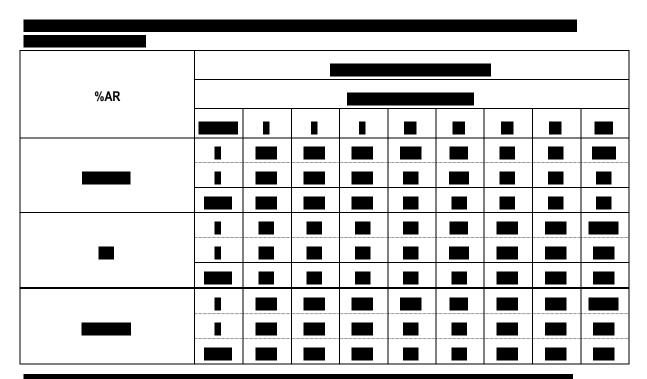
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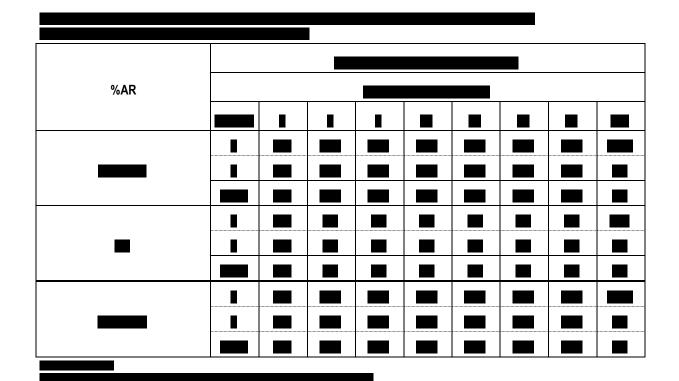


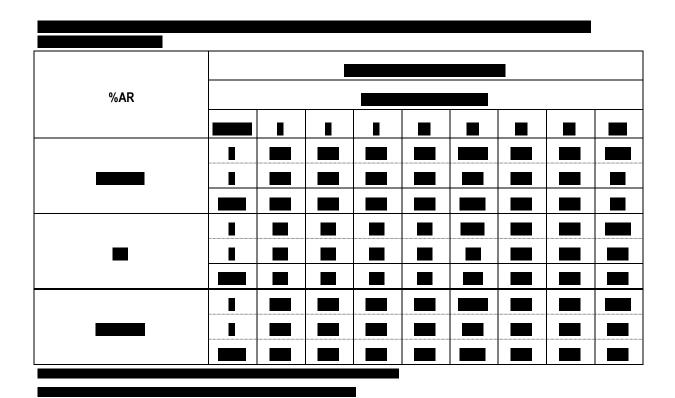
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n/a: not applicable



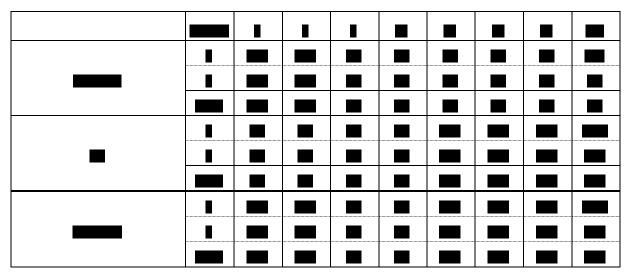


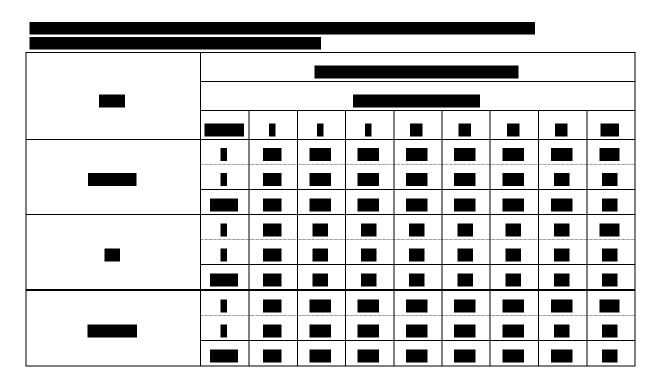




n/a: not applicable

%AR	





^{*} Replicate not used for evaluation/kinetic calculations, total recovery too low

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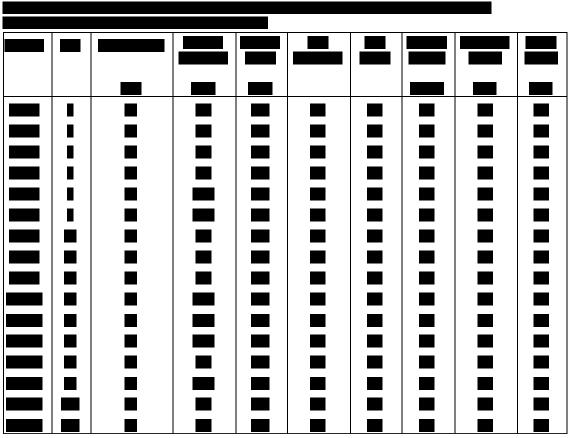
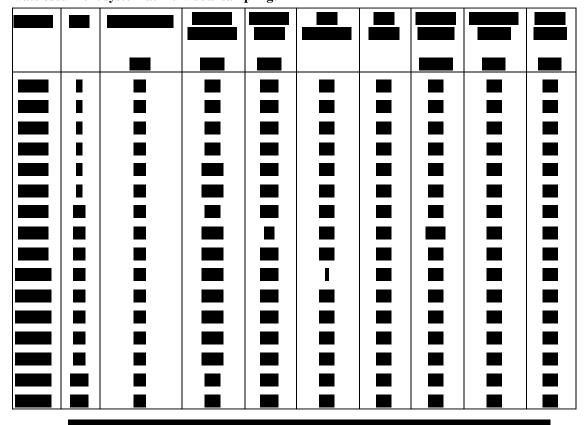
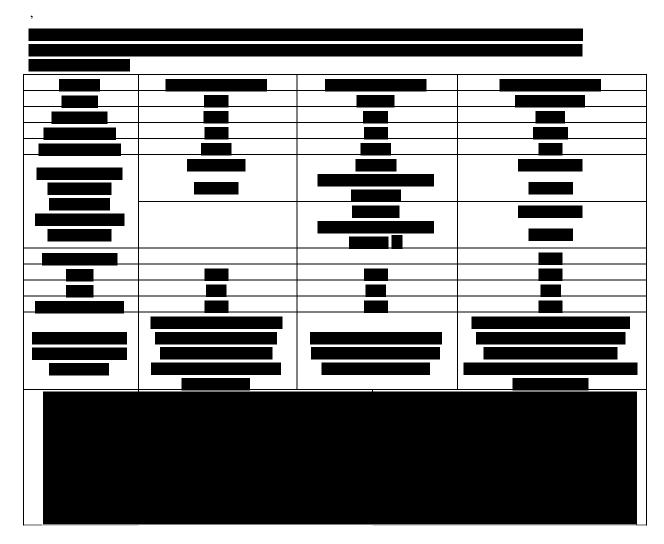


Table A7.1.2.2.19: Parameters characterising the physico-chemical state of the Weißach water/sediment system at individual samplings

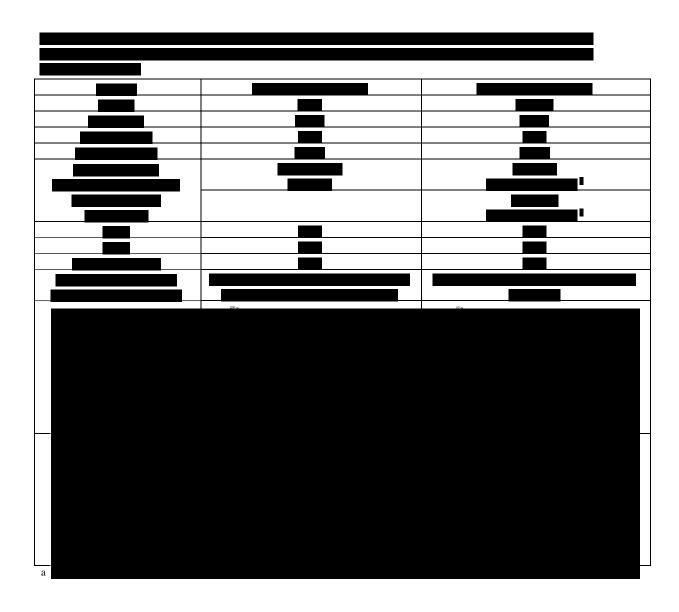


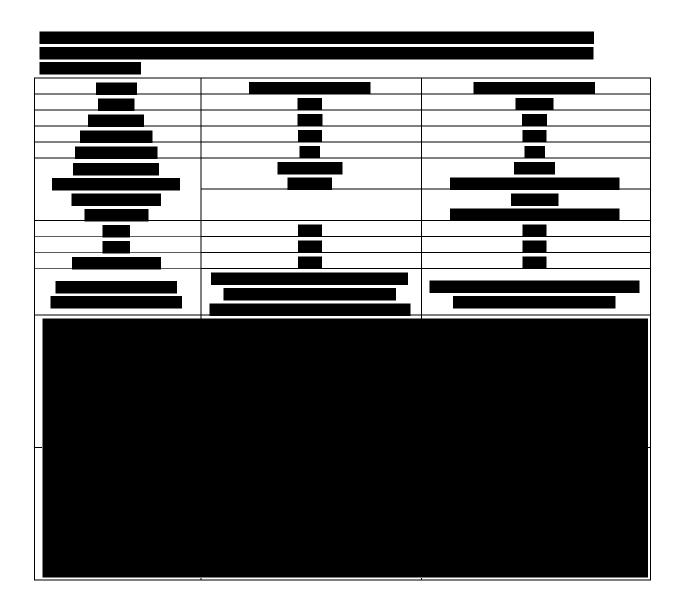


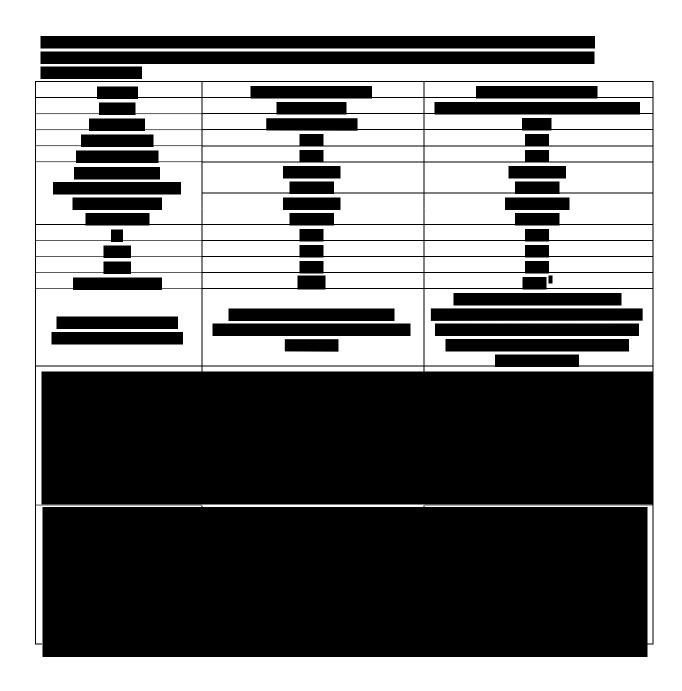


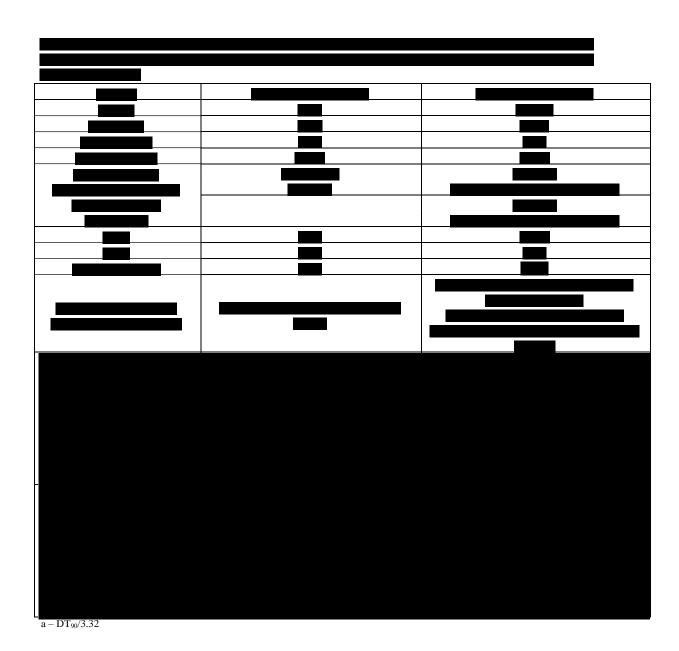


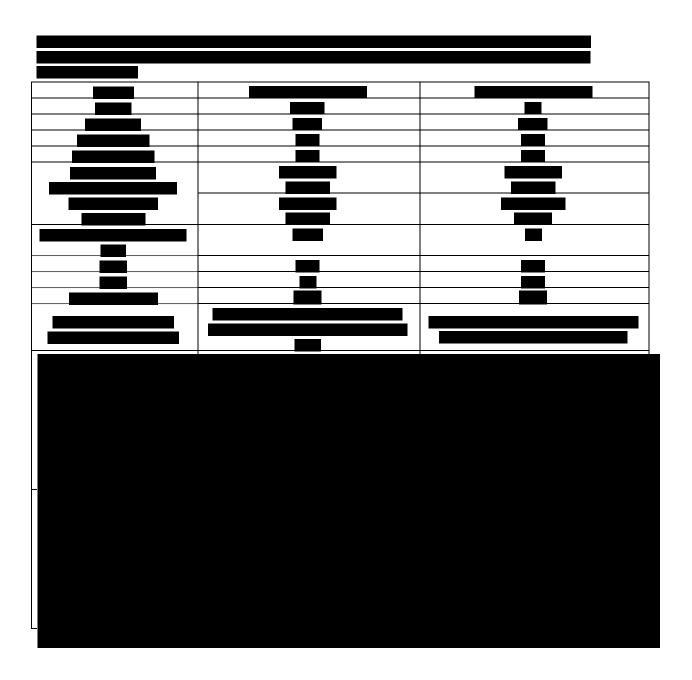


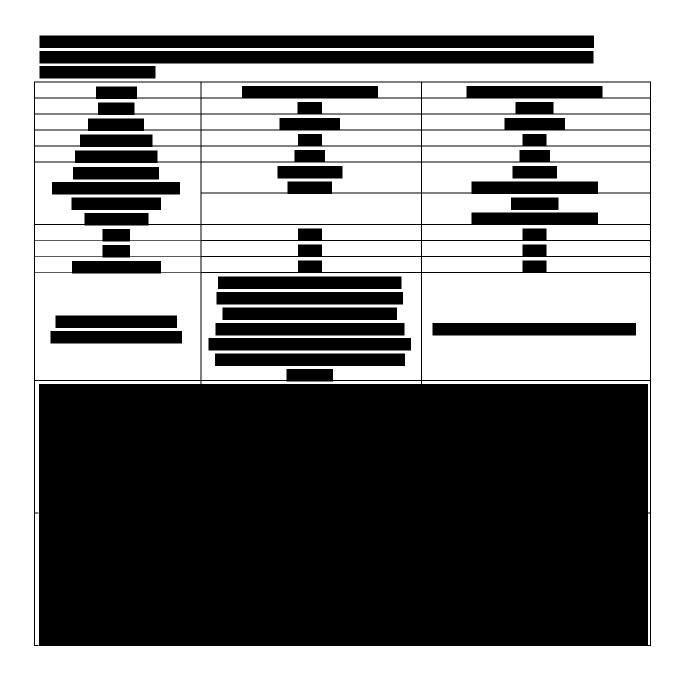




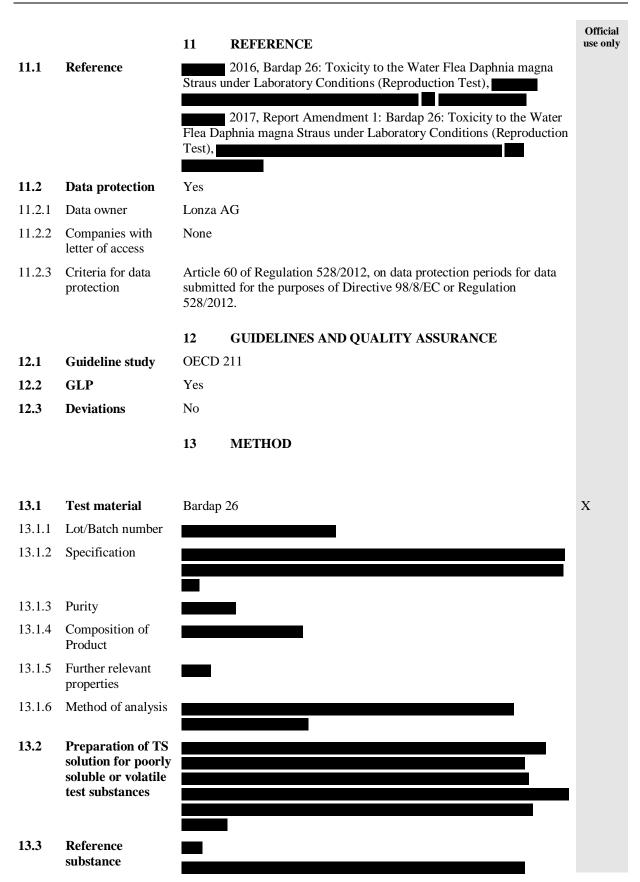




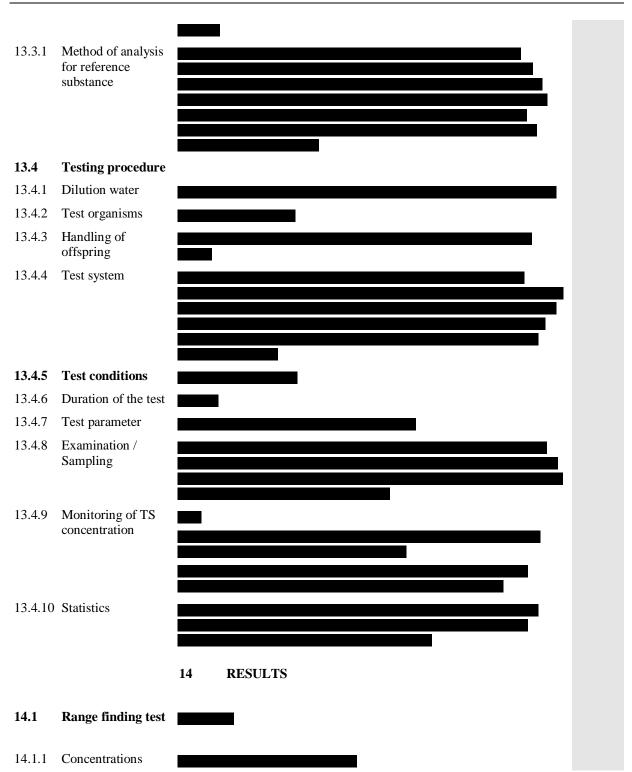




Section 7.4.3.4 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species



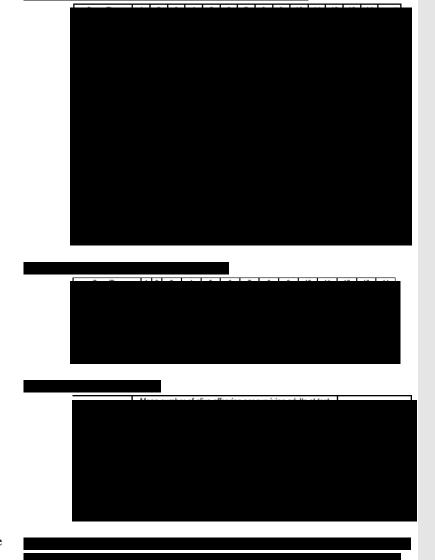
Section 7.4.3.4 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species



Section 7.4.3.4 Effects on rep Annex Point IIIA XIII 2.4 invertebrates

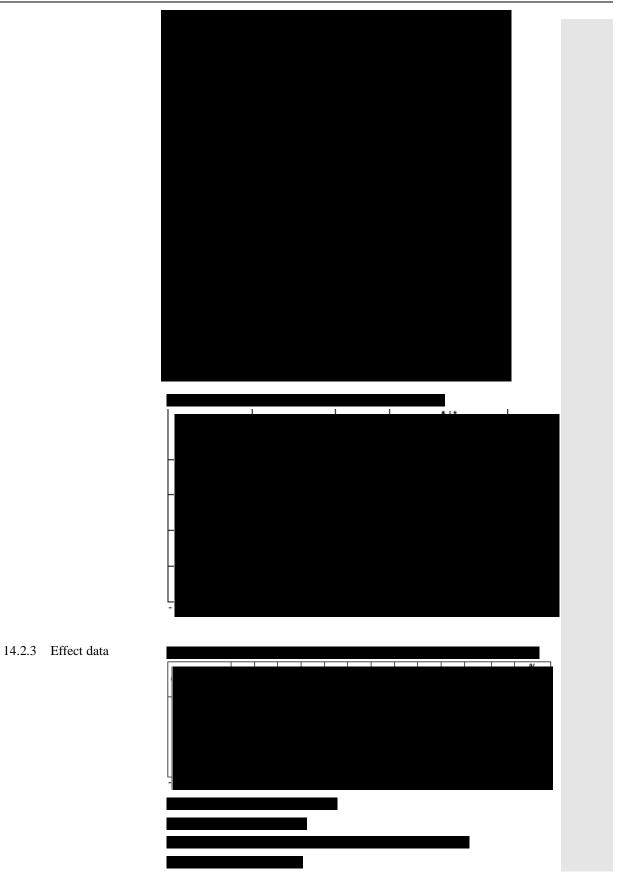
Effects on reproduction and growth rate with an invertebrate species

14.1.2 Number/ percentage of animals showing adverse effects

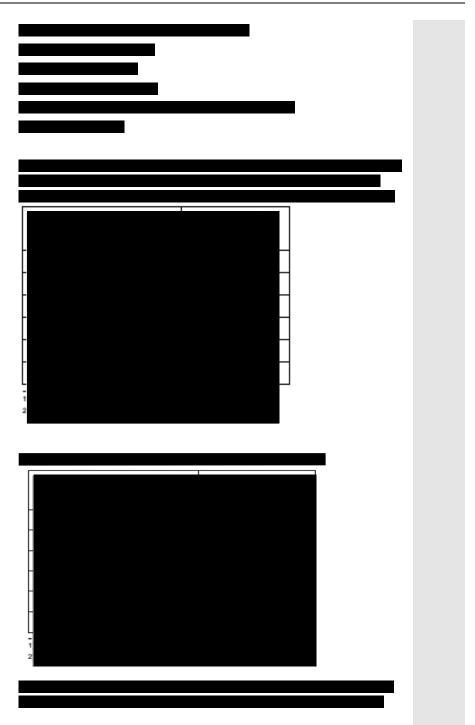


- 14.1.3 Nature of adverse effects
- 14.2 Results test substance
- 14.2.1 Initial concentrations of test substance
- 14.2.2 Actual concentrations of test substance

Section 7.4.3.4 Effects on reproduction and growth rate with an invertebrate species

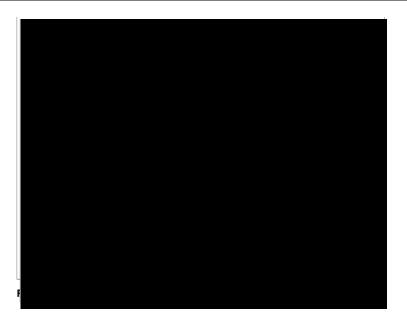


Section 7.4.3.4 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species

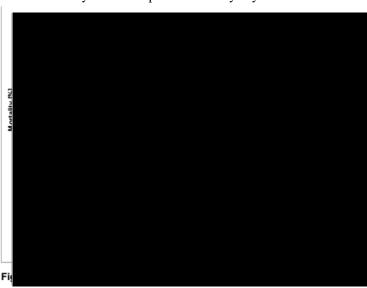


14.2.4 Concentration / response curve

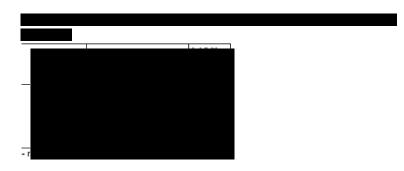
Section 7.4.3.4 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species



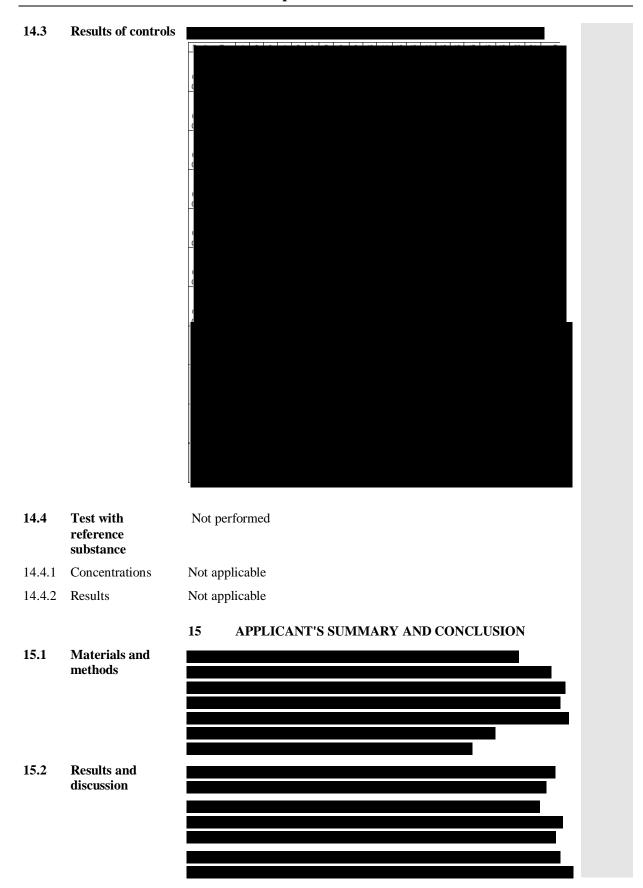
Plot of mortality of adult daphnids for every day of test:



14.2.5 Other effects



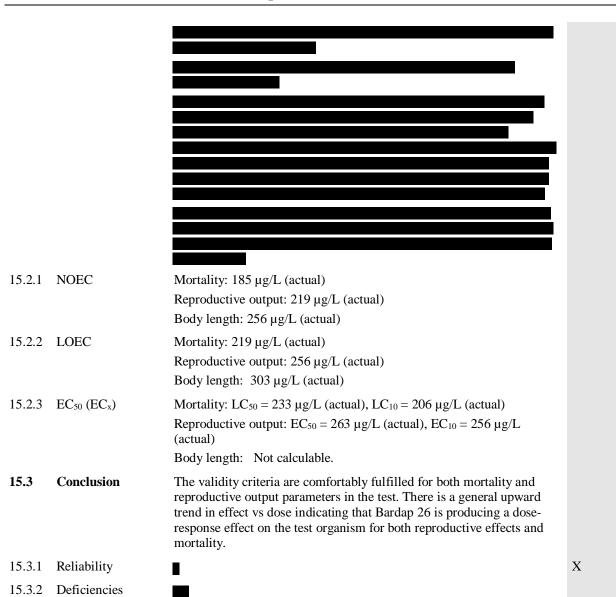
Section 7.4.3.4 Effects on reproduction and growth rate with an Annex Point IIIA XIII 2.4 invertebrate species



Section 7.4.3.4

Annex Point IIIA XIII 2.4

Effects on reproduction and growth rate with an invertebrate species



	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	20/12/2018
Materials and Methods	Adopt Applicant's version
Results and discussion	Adopt applicant's version
Conclusion	Adopt applicant's version
Reliability	
Acceptability	Acceptable

Section 7.4.3.4 Effects on reproduction and growth rate with an invertebrate species

Remarks	
	COMMENTS FROM (specify)
Date	Give date of comments submitted
Materials and Methods	Discuss additional relevant discrepancies referring to the (sub)heading numbers and to applicant's summary and conclusion. Discuss if deviating from view of rapporteur member state
Results and discussion	Discuss if deviating from view of rapporteur member state
Conclusion	Discuss if deviating from view of rapporteur member state
Reliability	Discuss if deviating from view of rapporteur member state
Acceptability	Discuss if deviating from view of rapporteur member state
Remarks	

