Section 7.1.1.1.2(1) Annex Point IIA 7.1.1.1.2	Phototransformation in water including identity of the products of transformation	
	1. REFERENCE	Official use only
1.1 Reference	Dykes, J. and M. Fennessey. (1989) Determination of the Photolysis Rate of Didecyldimethylammonium Chloride (DDAC) in pH 7 Buffered Solution at 25 °C. Report No. 37005. ABC Laboratories Inc., Columbia, MO, USA (Unpublished). Ref No.: D37 (LON 1793)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes U.S. EPA-FIFRA N-161-2 1988	
2.2 GLP (only where required)	Yes	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	Didecyldimethylammonium Chloride	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	
3.1.5 Stability	Stable under the conditions of this study.	
3.2 Testing procedure	[redacted]	

Section 7.1.1.1.2(1) Annex Point IIA 7.1.1.1.2	Phototransformation in water including identity of the products of transformation	
3.2.1 Light source	[redacted]	
3.2.2 Light spectrum	[redacted]	
3.2.3 Light intensity	[redacted]	
3.2.4 Sensitiser	[redacted]	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Direct Photolyis		
4.2.1 Half Life	Not determined since no significant degradation of the test substance was detected during the 30-day evaluation period.	
4.2.2 Degradation %	No detectable degradation occurred during the 30-day test period.	
4.3 Indirect Photolyis		
4.3.1 Half Life	227 days (light, exposed) 432 days (dark, exposed)	
4.3.2 Degradation %	Approximately 7% over a period of 30 days when exposed to light. Little or no degradation occurred in the presence of acetone without exposure to the light source.	
4.3.3 Rate constant	0.00304 $days^{-1}$ (light, exposed)/ 0.00160 $days^{-1}$ (dark, exposed)	
4.3.4 Breakdown Products	Yes, only in the presence of a photosensitiser when exposed to light. Essentially all of the ^{14}C-moiety not present as parent compound was found in a single degradate.	
4.4 Remarks	Based on the data generated during this study, Didecyldimethylammonium Chloride was found to be photolytically stable in the absence of a photosensitiser. An accurate estimate of the photolysis rate constants and the half-life for solutions containing no photosensitiser and all dark controls (both sensitised and nonsensitised) could not be determined since no significant degradation of the test substance was detected during the 30 day evaluation period. The overall mean ^{14}C-activity accountability for this study was 98.5%.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	

Section 7.1.1.1.2(1) Annex Point IIA 7.1.1.1.2	Phototransformation in water including identity of the products of transformation	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	[redacted]	
5.2.1 Direct photolysis	Degradation = 0% after 30 days	
5.2.2 Indirect photolysis	Degradation = 7% after 30 days Rate constants = 0.00304 $days^{-1}$ (light, exposed), 0.00160 $days^{-1}$ (dark, exposed)	
5.2.3 Half life	227 days (light, exposed), 432 days (dark, exposed)	
5.3 Conclusion	The test substance is photolytically stable in the absence of a photosensitising agent. In the presence of the energy from a xenon arc lamp and the photosensitising agent, acetone, it appears that Didecyldimethylammonium Chloride breaks down to form a single degradate.	
5.3.1 Reliability	[redacted]	
5.3.2 Deficiencies	[redacted]	
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Materials and Methods		
Results and discussion		
Conclusion	[redacted]	
Reliability	[redacted]	

Section 7.1.1.1.2(1) Annex Point IIA 7.1.1.1.2	**Phototransformation in water including identity of the products of transformation**
Acceptability	acceptable
Remarks	
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*

Section 7.1.1.2 Biotic
Annex Point IIA 7.1.1.2

Section 7.1.1.2.1 (1) **Annex Point IIA 7.1.1.2.1**	**Ready biodegradability**	
	1. REFERENCE	Official use only
1.1 Reference	Downing. (1993) Aerobic Aquatic Biodegradation of Didecyldimethylammonium Chloride Using a Shake Flask Test System. Report No. 40687. ABC Labs, Columbia, MO, USA (Unpublished). Ref No.: D52 (LON 2305)	
1.2 Data protection	Yes	
1.2.1 Data owner	*The Dialkyl Project*	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes U.S. EPA OTS 796.3100 1993	
2.2 GLP (only where required)	Yes	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	
3.1.5 Stability	The a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least	

Section 7.1.1.2.1 (1) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
	seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test procedure		
3.2.1 Test system	Loam, activated sludge and raw influent sewage	
3.2.2 Control substance	[redacted]	
3.2.3 Acclimation period	14 days	
3.2.4 Contact time	28 days	
3.2.5 Test condition	[redacted]	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Kinetics		
4.2.1 Degradation %	See table 7.1.1.2.1(1)-1 78.1 – 85.6% degradation after 28 days, 10 day window criteria met.	
4.2.3 ThDOC	DOC = 83.0 - 85.3%, mean = 84.5% ThDOC after 28 days	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	The observed rate of degradation was 78.1 - 85.6% after 28 days. The dissolved oxygen content was 83.0 – 85.3%.The mean dissolved oxygen content was 84.5% ThDOC after 28 days	
5.3 Conclusion	The test substance is readily biodegradable.	
5.3.1 Reliability	[redacted]	
5.3.2 Deficiencies	[redacted]	

Section 7.1.1.2.1 (1) Annex Point IIA 7.1.1.2.1	**Ready biodegradability**
	Evaluation by Competent Authorities
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	[redacted]
Materials and Methods	
Results and discussion	
Conclusion	[redacted]
Reliability	[redacted]
Acceptability	acceptable
Remarks	
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*

Table 7.1.1.2.1(1)-1. % Degradation

Day	% Degradation	
	Didecyldimethylammonium Chloride	Control [redacted]
3	4.1 - 5.5	[redacted]
7	27.9 - 30.7	[redacted]
14	62.5 - 65.1	[redacted]
21	72.2 - 75.7	[redacted]
28	78.1 - 85.6	[redacted]

n/d no data

Section 7.1.1.2.1(2) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
	1. REFERENCE	Official use only
1.1 Reference	Schaefer, E.C. (1996) Aerobic Aquatic Biodegradation Test with Didecyldimethylammonium Chloride (DDAC) and a Bentonite Clay:DDAC Complex Conducted with Natural Sediment and Site Water. [Calgon-Sponsored Study – DDAC Molluscicide program] (Unpublished) Ref No.: D61a (LON 2923)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes EPA OTS 796.3260, also based on OECD Method 301B 1993	
2.2 GLP (only where required)	No	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	

Section 7.1.1.2.1(2) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
3.1.5 Stability	The a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test procedure		
3.2.1 Test system	river water and sediment	
3.2.2 Sediment/water amounts	[redacted]	
3.2.3 Sediment treatment	[redacted]	
3.2.4 Contact time	58 days	
3.2.5 Test condition	[redacted]	
3.2.6 CFU concentration	[redacted]	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Degradation%	> 72.1 % after 28 days	
4.3 Half life	Didecyldimethylammonium Chloride t½ = 11.2 days	
4.4 CO_2 parameters		
4.4.1 ThCO2	Didecyldimethylammonium Chloride: 90.2%	
4.4.2 Mean CO_2 production	Average of 89.5% CO_2 produced over 58 days, comparable to reference substance, sodium benzoate.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	*Summarise relevant results; discuss dose-response relationship where relevant.*	

Section 7.1.1.2.1(2) **Annex Point IIA 7.1.1.2.1**		**Ready biodegradability**	
		72.1% of the test substance had degraded after 28 days. The half life for Didecyldimethylammonium Chloride was 11.2 days. Didecyldimethylammonium Chloride produced 90.2% CO_2. The mean CO_2 produced was 89.5% over 58 days, comparable to the reference substance, sodium benzoate.	
5.3	**Conclusion**	The test substance was found to be readily biodegradable.	
5.3.1	Reliability	[redacted]	X
5.3.2	Deficiencies	[redacted]	
		Evaluation by Competent Authorities	
		Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
		EVALUATION BY RAPPORTEUR MEMBER STATE	
Date		[redacted]	
Materials and Methods			
Results and discussion			
Conclusion		[redacted]	
Reliability		[redacted]	
Acceptability		acceptable	
Remarks		[redacted]	
		COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date		*Give date of the 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*	

Table 7.1.1.2.1(2)-1. % Th CO_2

Day	% Degradation	
	Didecyldimethylammonium Chloride	Control [redacted])
2	-0.5 - 1.2	[redacted]
6	21.3 - 31.2	
10	45.4 - 47.4	
14	58.9 - 62.9	
20	70.3 – 73.2	
24	71.5 – 78.6	
28	71.7 - 80.5	

Section 7.1.1.2.1 (3) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
	1. REFERENCE	Official use only
1.1 Reference	Hirschen, D.M., M. Ziemer, D. Seifert. (1998) Bardac 22: DOC Die-Away Test OECD 301 A with pre-adapted inoculum. Report No. D0094-1 from Clariant. (Unpublished) Ref No.: D110 (LON 2970)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes OECD Guideline 301 A "Ready Biodegradability: DOC Die Away Test" 1998	
2.2 GLP (only where required)	No	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
	.	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	

Section 7.1.1.2.1 (3) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
3.1.5 Stability	The a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test procedure		
3.2.1 Test system	Activated sludge, adapted (Biodegradation test preceded by Zahn-Wellens Test (OECD302B) to pre-adapt sludge.)	
3.2.2 Control substance	[redacted]	
3.2.3 Contact time	28 days	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Kinetics		
4.2.1 % Degradation	See table 7.1.1.2.1(3)-1 90% degradation after 28 days, 10 day window criterion met.	
4.2.2 DOC	See table 7.1.1.2.1(3)-1	
4.3 Remarks	The test substance was readily biodegradable.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	Biodegration of the test substance measured 90% after 28 days. The DOC was 2.0 mg/l.	
5.3 Conclusion	The test substance supports the evidence that Didecyldimethylammonium Chloride is readily biodegradable.	
5.3.1 Reliability	[redacted]	
5.3.2 Deficiencies	[redacted]	
Evaluation by Competent Authorities		

Section 7.1.1.2.1 (3) Annex Point IIA 7.1.1.2.1	**Ready biodegradability**
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	[redacted]
Materials and Methods	
Results and discussion	
Conclusion	[redacted]
Reliability	[redacted]
Acceptability	acceptable
Remarks	
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*

Table 7.1.1.2.1(3)-1

Time (days)	Control	[redacted]		Test substance (10 mg/l)	
	DOC (mg/l)	DOC (mg/l)	Degradation (%)	DOC (mg/l)	Degradation (%)
0	[redacted]			11.2	-
1				9.9	10
3				9.6	12
6				9.1	17
9				3.4	73
14				2.7	80
21				2.3	83
28				2.0	90

Section 7.1.1.2.1(4) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
	1. REFERENCE	Official use only
1.1 Reference	Bazzon, M and Deschamps, F. (2002) Biotic degradation: biodegradability evaluation in aqueous medium: ultimate aerobia of the referenced compounds, CATIGENE T 50. for Stepan Europe, by INERIS; INERIS Study 506223 (Unpublished). Ref No.: D134 (LON 3796)	
1.2 Data protection	Yes	
1.2.1 Data owner	ADBAC Issues Steering Committee	
1.2.2 Criteria for data protection	Data submitted to the MS after 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes EEC Guideline 84/449 -Method C5 2002	
2.2 GLP (only where required)	No (study conducted under the principles of GLP but not in full compliance – well documented study)	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), alkyl(C_{12}-C_{18})dimethylbenzylammonium chloride (ADBAC; CAS RN 68424-85-1), in aqueous/ethanol solution.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted] Refer to Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein, for specifications of percent active substance, purity and typical impurities.	

Section 7.1.1.2.1(4) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
3.1.5 Stability	The a.s., ADBAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test procedure		
3.2.1 Test system	Activated sludge, non-adapted	
3.2.2 Contact time	28 days	
3.2.3 Control substance	[redacted]	
3.2.4 Type	Aerobic	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Kinetics		
4.2.1 Test substance	See table 7.1.1.2.1(1)-1	
4.2.2 Control	See table 7.1.1.2.1(1)-1	
4.2.3 Remarks	The test substance is readily biodegradable.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	[redacted]	

Section 7.1.1.2.1(4) Annex Point IIA 7.1.1.2.1	Ready biodegradability	
5.3 Conclusion	The test substance is readily biodegradable.	
5.3.1 Reliability	[redacted]	
5.3.2 Deficiencies	[redacted]	
	Evaluation by Competent Authorities	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
	[redacted]	
Date		
Materials and Methods		
Results and discussion	[redacted]	
Conclusion	[redacted]	
Reliability	acceptable	
Acceptability		
Remarks	**COMMENTS FROM OTHER MEMBER STATE (SPECIFY)**	
	Give date of the comments submitted	
Date	*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*	
Materials and Methods	*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		

Table 7.1.1.2.1(4)-1. % Degradation of Alkyldimethylbenzylammonium Chloride (ADBAC)and control.

Day	% degradation ADBAC 5(mg/l)	% degradation ADBAC 10(mg/l)	% degradation control

0	0	0	[redacted]
5	9.5	0.65	
15	55.3	4.65	
28	71.6	5.0	

Section 7.1.1.2.1 (5) Annex Point IIA 7.1.1.2.1	Ready biodegradability
	1. REFERENCE
1.1 Reference	Fiebig, S. (2006) Dodigen 1881: Ready Biodegradability: Modified Sturm Test. Dr. U. Noack-Laboratorien, Germany. Study No. AST97952 (unpublished). Ref No.: D159 (LON 4031)
1.2 Data protection	Yes
1.2.1 Data owner	The Dialkyl Project
1.2.2 Criteria for data protection	Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA
	2. GUIDELINES AND QUALITY ASSURANCE
2.1 Guideline study	Yes OECD Guideline 301B 1992
2.2 GLP (only where required)	Yes
2.3 Deviations	No
	3. MATERIALS AND METHODS
3.1 Test material	[redacted] DDAC as active substance, a.s. [redacted]
3.1.1 Lot/Batch number	[redacted]
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5).
3.1.3 Description	[redacted]
3.1.4 Purity	[redacted]
3.1.5 Stability	The a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, e.g. at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).
3.2 Test procedure	
3.2.1 Test system	Mineral nutrient solution prepared according to OECD 301B.

3.2.2 Inoculum	Non-adapted activated sludge from municipal sewaqe treatment plant
3.2.3 Control (reference) substance	[redacted]
3.2.4 Acclimation period	
3.2.5 Contact time	28 days
3.2.6 Test condition	[redacted]
	4. RESULTS
4.1 Results of test substance	
4.1.1 Initial concentration of test substance	[redacted]
4.2 Kinetics	
4.2.1 Degradation %	Degradation of the test substance was 67 and 72% in the two test replicates after 28 days, respectively. The mean percent degradation as ThCO2 was 69.5% in 28 days. See table 7.1.1.2.1(1)-1. The 10- day window criterion was met, with 10% degradation observed in both replicates after 5 days and degradation reaching 60% by Day 15 and 16 in the respective replicates. [redacted]
	5. APPLICANT'S SUMMARY AND CONCLUSION
5.1 Materials and methods	[redacted]
5.2 Results and discussion	[redacted]

5.3 Conclusion	The test substance is readily biodegradable.
5.3.1 Reliability	[redacted]
5.3.2 Deficiencies	[redacted]

	Evaluation by Competent Authorities
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	[redacted]
Materials and Methods	
Results and discussion	
Conclusion	[redacted]
Reliability	[redacted]
Acceptability	Acceptable
Remarks	
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*

Table 7.1.1.2.1(1)-1. % Degradation

Day	% Degradation (as % $ThCO_2$)		
	Toxicity Control (Test + Reference Substances)	Test Substance ([redacted] DDAC as a.s.) [N=2] [a]	Control/Reference Substance ([redacted]) [a]
1	0	0, 0	[redacted]
3	7	0, 0	
7	29	26, 26	
10	51	44, 43	
13	57	46, 51	
15	61	56, 61	
17	63	63, 64	
21	63	60, 62	
24	66	64, 63	
28	70	71, 67	
29 [b]	76	72, 67	

[a] Percent (%) degradation represents gross CO_2 evolution less the CO_2 evolution observed in the control
[b] Results of acidified gas wash bottles following test termination.

[redacted]

Section 7.1.1.2.2 (1) Annex Point IIA 7.1.1.2.2	Inherent biodegradability	
	1. REFERENCE	Official use only
1.1 Reference	Hirschen, D.M., M. Ziemer, D. Seifert. (1998) Bardac 22: DOC Die-Away Test OECD 301 A with pre-adapted inoculum. Report No. D0094-1 from Clariant. (Unpublished) Ref No.: D110 (LON 2970)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes OECD Guideline 302 B "Inherent biodegradability: Modified Zahn-Wellens Test" 1998	
2.2 GLP (only where required)	Yes	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. [redacted] Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	
3.1.3 Description	See comment regarding composition below.	

Section 7.1.1.2.2 (1) **Annex Point IIA 7.1.1.2.2**	**Inherent biodegradability**	
3.1.4 Purity	[redacted]	
3.1.5 Stability	The a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test procedure		
3.2.1 Test system	activated sludge, domestic, non-adapted	
3.2.2 Control substance	[redacted]	
3.2.3 Contact period	28 days	
3.2 Remarks	The test was carried out twice	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Kinetics		
4.2.1 % Degradation	See table 7.1.1.2.2(1)-1 87 – 94% degradation after 28 days, 10 day window criterion met.	
4.2.1 DOC	See table 7.1.1.2.2(1)-1	
4.3 Remarks	The test substance was inherently biodegradable.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	Degradation of the test substance was 87 - 94% after 28 days.	
5.3 Conclusion	The test substance is inherently biodegradable.	
5.3.1 Reliability	[redacted]	

Section 7.1.1.2.2 (1) Annex Point IIA 7.1.1.2.2	Inherent biodegradability
5.3.2 Deficiencies	[redacted]
	Evaluation by Competent Authorities
	EVALUATION BY RAPPORTEUR MEMBER STATE
Date	[redacted]
Materials and Methods	
Results and discussion	
Conclusion	[redacted]
Reliability	[redacted]
Acceptability	Acceptable
Remarks	[redacted]
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*

Table 7.1.1.2.2(1)-1. % Degradation

Time (days)	Control DOC (mg/l)	[redacted] DOC (mg/l)	[redacted] Degradation (%)	Test substance (10 mg/l) DOC (mg/l)		Degradation (%)	
				Test 1	Test 2	Test 1	Test 2
0				10.1	9.5	-	-
2				7.2	8.4	32	35
5				6.6	8.2	45	41
8				5.7	6.8	62	60
12				4.8	5.7	79	74
14				5.3	5.4	79	83
21				4.8	5.4	88	84
28				5.0	5.7	94	87

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Section 7.1.1.2.3 Annex Point III-A.7.1.1.2.3	Biodegradation in seawater	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] Limited exposure [X]	Technically not feasible [ ] Scientifically unjustified [ ] Other justification [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	*Agreed with applicant justification*	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.1.2 Rate and route of degradation in aquatic systems including identification of metabolites and degradation products
Annex Point IIA 7.1.2

Section 7.1.2.1 Biological sewage treatment
Annex Point IIA 7.1.2.1

Section 7.1.2.1.1(1) **Annex Point IIA 7.1.2.1.1**	**Aerobic biodegradation**	
	1. REFERENCE	Official use only
1.1 Reference	Schaefer, E.C. (2001) Didecyldimethylammonium Chloride (DDAC): Dieaway in Activated Sludge. Project No. 289E-112. Wildlife International, Inc., Easton, MA, USA (Unpublished). Ref No.: D60 (LON 3438)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	No Not specified 2001	
2.2 GLP (only where required)	Yes	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	

Section 7.1.2.1.1(1) Annex Point IIA 7.1.2.1.1	Aerobic biodegradation	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	
3.1.5 Stability	The non-radiolabelled a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
3.2 Test system		
3.2.1 Test system	Biotic activated sludge [redacted]	
3.2.2 Control	[redacted]	
3.2.3 Source	[redacted]	
3.3 Test procedure		
3.3.1 Acclimation period	21 days	
3.3.2 Test period	28 days	
3.3.3 Test condition	Two 1 gallon jugs, with gas trapping systems, containing 2 litres of either biotic or abiotic activated sludge were dosed with [redacted] radiolabelled test substance.	
3.3.4 Sampling intervals	[redacted]	
3.4 Statistics	[redacted]	
	4. RESULTS	
4.1 Dose concentration	[redacted]	
4.2 Radioactive distributions		
4.2.1 CO_2	See table 7.1.2.1.1(1)-1 The amount of $^{14}CO_2$ increased over time reaching 93.3% after 28 days. No $^{14}CO_2$ evolved in the abiotic sample.	
4.2.2 Extracts	See table 7.1.2.1.1(1)-1	

Section 7.1.2.1.1(1) **Annex Point IIA 7.1.2.1.1**	**Aerobic biodegradation**	
	The amount of parent and metabolite decreased over time reaching 1.32% of metabolite and 0% of metabolite after 28 days. In the abiotic sample radioactivity was found as an average 92.2% parent and 0% metabolite.	X
4.2.3 Solids	See table 7.1.2.1.1(1)-1 The amount of radioactivity in the solid varied from 1.71 – 5.32% with 3.28% found after 28 days. 1.5% of the radioactivity was present as solid in the abiotic sample.	
4.3 Statistics		
4.3.1 2 compartment function kinetic analysis	See table 7.1.2.1.1(1)-2	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	[redacted]	
5.3 Conclusion	Didecyldimethylammonium Chloride biodegrades in aerobic conditions	
5.3.1 Reliability	[redacted]	X
5.3.2 Deficiencies	[redacted]	
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Materials and Methods	[redacted]	
Results and discussion	[redacted]	
Conclusion	[redacted]	
Reliability	[redacted]	

Section 7.1.2.1.1(1) **Annex Point IIA 7.1.2.1.1**	**Aerobic biodegradation**
Acceptability	acceptable
Remarks	[redacted]
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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 stat*
Reliability	*Discuss if deviating from view of rapporteur member state*
Acceptability	*Discuss if deviating from view of rapporteur member state*

Table 7.1.2.1.1(1)-1. Radioactivity distribution (% total radioactivity)

DDAC	Biotic				Abiotic mean
	1 hr	12 hrs	Day 7	Day 28	
CO_2	12.36	65.83	88.36	93.30	N/A
Extracts – parent	65.21	9.72	1.56	1.32	92.22
Extracts – metabolite	20.10	13.37	1.02	0.00	0.00
Solid	1.71	3.58	5.32	3.28	1.50
Total	99.38	92.50	96.26	97.90	93.72

Table 7.1.2.1.1(1)-2. Two-compartment functions kinetic analysis

Process	F-value	R^2	Compartment A		Compartment B	
			A (%)	K_1 (hrs^{-1})	B (%)	K_1 (hrs^{-1})
$^{14}CO_2$ production	539.9	0.990	65.9 ± 5.8	0.2 ± 0.003	26.4 ± 5.6	0.014 ± 0.005
Loss of parent	1423.9	0.996	47.4 ± 9.7	1.1 ± 0.29	59.1 ± 10.1	0.17 ± 0.03

Section 7.1.2.1.2 Annex Point III-A.7.1.2.1.2	Anaerobic biodegradation	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [X]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	*Agreed with applicant justification*	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.1.2.2 Biodegradation in freshwater
Annex Point IIA 7.1.2.2 – headline only

Section 7.1.2.2.1 **Annex Point III-A.7.1.2.2.1**	**Aerobic aquatic degradation study**	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [X] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	*Agreed with applicant justification*	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	**A Water/sediment degradation study**	
	REFERENCE	Official use only
Reference	de Vette, H.Q.M., van Asten, J.G. and A.O. Hanstveit (2000) A water/sediment study of didecyldimethylammonium chloride (DDAC) using [^{14}C]-DDAC. TNO Nutrition and Food Research, Delft, The Netherlands. Study No. IMW-99-9048-01 (unpublished). Ref. No. D65 (LON 3255)	
Data protection	Yes	
iii) Data owner	The Dialkyl Project	
iv) Criteria for data protection	Data submitted to the MS after 13 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	GUIDELINES AND QUALITY ASSURANCE	
Guideline study	Yes. Dutch CTB guideline Section G.2.1, German BBA guideline for the registration of pesticides, part IV, 5-1, the EU Commission Directive 95/36/EC and SETAC-Europe Procedures for Assessing the Environmental Fate and Ecotoxicity of Pesticides. The study design is in general agreement with the current OECD 308 guideline.	
GLP	Yes	
Deviations	No	
	MATERIALS AND METHODS	
Test material	[^{14}C]-Didecyldimethylammonium Chloride (DDAC) [redacted] Non-radiolabelled – DDAC (provided as [redacted] a trade name for DDAC).	

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	**A Water/sediment degradation study**	
i) Lot/Batch number	[redacted]	
ii) Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution. Specific activity: 23.39 mCi/mmol.	
Purity	[redacted]	
Stability	The non-radiolabelled a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, e.g. at least seven years under standard laboratory conditions (see Section 2.6.1 of Annex IIA).	
Further relevant properties	[redacted]	
Composition of Product	[redacted]	
Specific chemical analysis	[redacted]	
Reference substance	[redacted]	
Initial concentration of reference substance	[redacted]	
Testing procedure	The route and rate of aquatic degradation of [^{14}C]-DDAC was investigated in two representative natural aerobic water/anaerobic sediment systems under laboratory conditions at a temperature of 20°C.	
Test media	[redacted]	

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	A Water/sediment degradation study
	[redacted]
Test system	[redacted]
Test conditions	[redacted]
Method of preparation of test solution	[redacted]
Initial TS concentration	[redacted]
Duration of test	120 days

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	A Water/sediment degradation study
Sampling	[redacted]

[redacted]

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	**A Water/sediment degradation study**	
	[redacted]	
Liquid scintillation counting	[redacted]	
Chromatographic analysis	[redacted]	
Controls	[redacted]	
Statistics	[redacted]	
	RESULTS	
Recovery and distribution	The recovery and distribution of the applied radioactivity from the water/sediment systems is summarised in Table A7.1.2.2.2 (1)-2 and is presented graphically for the TNO and Kromme Rijn systems in Figures A7.1.2.2.2 (1)-2 and A7.1.2.2.2 (1)-3, respectively. The overall recovery of the applied radioactivity ranged from 75.7 to 96.3% and 69.1 to 91.7% for the TNO and Kromme Rijn systems, respectively. The recovery at 0 days was below 80% for both systems. The total recovery in these two systems improved to a generally acceptable level over the 7 to 14 day periods but then subsequently declined and comprised 79.0% and 69.7%, respectively, by the end of the study (120 days). Levels of applied radioactivity recovered from the water phase of the TNO and Kromme Rijn systems declined from 41.7% and 54.4%, respectively, at 0 days to < 5% in both systems by 14 days. Levels recovered in the sediment phase (extractable) increased to a maximum of 80.1% in the TNO system after 7 days and a maximum of 79.1% in the Kromme Rijn system after 1 day. Unextractable levels in the sediment phase increased to a maximum of 20.5% in the TNO system after 28 days and a maximum of 23.5% in the Kromme Rijn system after 56 days, before declining in both systems to approximately 16% after 120 days. The levels of total carbon dioxide evolved steadily	

Section A7.1.2.2.2 (1) Annex Point IIIA XII.2.1	A Water/sediment degradation study	
	increased to 7.8% and 15.4% in the respective systems after 120 days. Formation of organic volatiles was negligible.	
Degradation of test substance	Analysis of the water and sediment layers indicated that no significant (i.e. > 2%) metabolites were formed. Procedural losses, however, during sample work up were significant (up to 77%), especially for the water layer, and unacceptable. Such procedural losses call into question any results presented; these procedural losses are, therefore, not detailed further in this summary. Loss of the active substance from the aqueous phase of these systems is summarized in terms of DT50 and DT90 (see Table A7.1.2.2.2 (1)-3), which were determined using 'best fit' models. First order half-lives determined for the dissipation of the active substance from the water layer to the sediment layer were 1.7 and 0.4 days for the TNO and Kromme Rijn systems, respectively (see Table A7.1.2.2.2 (1)-4). The metabolite profile was not confirmed in a secondary analytical system.	
	APPLICANT'S SUMMARY AND CONCLUSION	
Materials and methods	[redacted]	
Results and discussion	[redacted]	

Section A7.1.2.2.2 (1) **Annex Point IIIA XII.2.1**	**A Water/sediment degradation study**	
	[redacted]	
Conclusion	The active substance DDAC quickly dissipated from the water layer to the sediment layer. Overall, major methodological deficiencies limit the usefulness of the study and the information that can be reliably derived.	
Reliability	[redacted]	
Deficiencies	[redacted]	
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Materials and Methods	[redacted]	
Results and discussion	[redacted]	
Conclusion	[redacted]	
Reliability	[redacted]	
Acceptability	acceptable	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of the 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*	

Section A7.1.2.2.2 (1) **Annex Point IIIA XII.2.1**	**A Water/sediment degradation study**
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	

Table A7.1.2.2.2 (1)-1: Test system characterisation

[redacted]

Figure A7.1.2.2.2 (1)-1: Test system incubation vessels

Table A7.1.2.2.2 (1)-2: Recovery and distribution of applied radioactivity from the water/sediment systems

	TNO water/sediment system									
Days	0	1	2	7	14	28	42	56	84	120
CO_2 trap	n.d.	0.0	0.0	0.1	0.6	1.2	2.8	4.2	3.8	7.6
CO_2 in H_2O	n.d.	0.2	0.4	2.0	5.8	6.1	3.5	2.5	0.2	0.2
CO_2 sum	n.d.	0.2	0.4	2.1	6.3	7.3	6.3	6.7	4.0	7.8
Volatiles	n.d.	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
H_2O	54.4	30.2	31.0	7.8	1.3	0.4	0.4	0.2	0.7	0.1
Sediments	19.6	46.5	50.4	80.1	75.2	63.4	62.8	55.6	66.8	55.0
Residue	1.6	4.7	7.0	6.3	14.3	20.5	19.2	19.7	16.2	16.1
Recovery	75.7	81.6	88.9	96.3	97.1	91.6	88.8	82.2	87.8	79.0
	Kromme Rijn water/sediment system									
Days	0	1	2	7	14	28	42	56	84	120
CO_2 trap	n.d.	0.0	0.0	1.1	5.6	13.5	16.8	11.2	11.9	14.9
CO_2 in H_2O	n.d.	0.4	0.6	5.3	9.0	2.5	0.8	0.8	0.7	0.5
CO_2 sum	n.d.	0.5	0.7	6.4	14.6	16.1	17.6	11.9	12.5	15.4
Volatiles	n.d.	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
H_2O	41.7	5.9	7.7	10.1	0.0	3.9	0.2	0.4	-0.4	0.0
Sediments	25.3	79.1	75.8	69.7	61.4	46.9	49.7	42.5	53.2	38.0
Residue	2.1	4.5	4.2	5.5	13.1	19.4	18.4	23.5	16.5	16.4
Recovery	69.1	90.0	88.4	91.7	89.1	86.2	85.9	78.3	82.2	69.7

Legend:

CO_2 trap	Results of carbon dioxide measurements in the traps.
CO_2 in H_2O	Carbon dioxide remaining in the aqueous phase.
CO_2 sum	Sum of the carbon dioxide measurements
volatiles	Radioactivity in the oil-covered quartz wool
H_2O	Radioactivity in the aqueous phase (excluding CO_2)
sediments	Extractable radioactivity in the sediments and particles collected on cotton wool filter
residue	Unextractable radioactivity in the sediments
recovery	Overall recovery
nd	Not determined

Figure A7.1.2.2.2 (1)-2: Recovery and distribution of applied radioactivity from the TNO water/sediment system

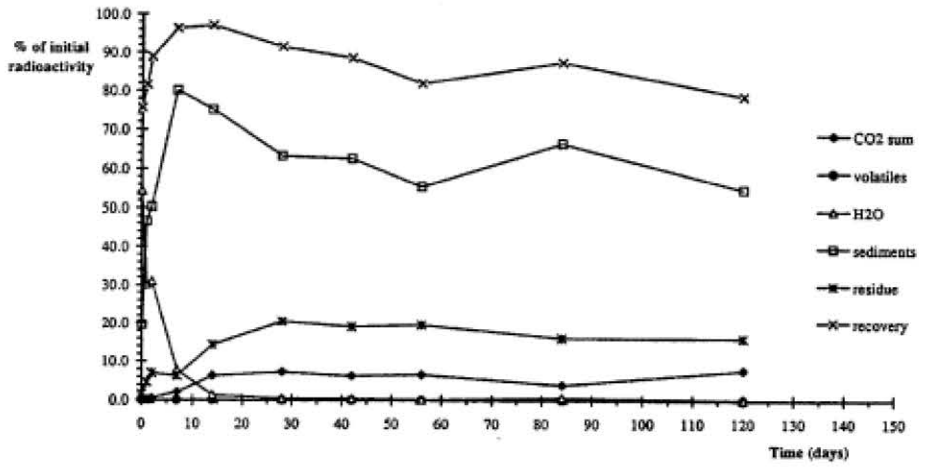

Figure A7.1.2.2.2 (1)-3: Recovery and distribution of applied radioactivity from the Kromme Rijn water/sediment system

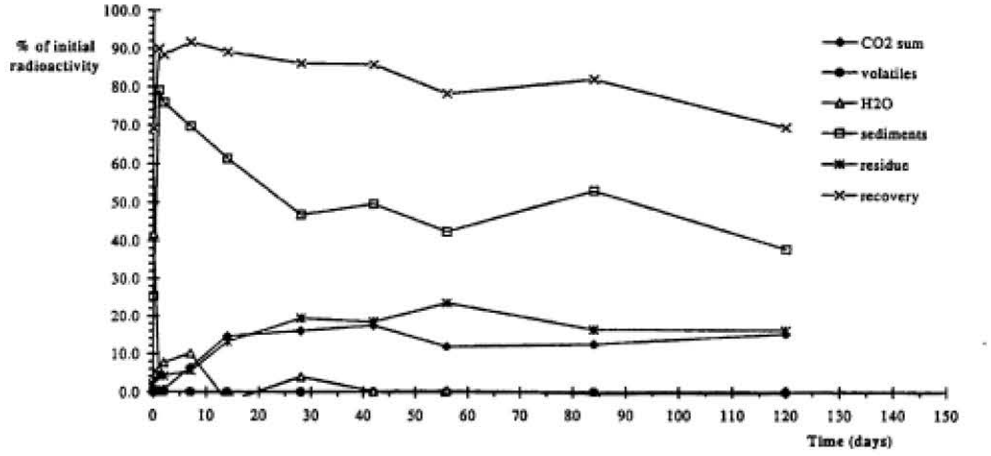

Table A7.1.2.2.2 (1)-3: Loss of ^{14}C-DDAC (DT50 and DT90) from aqueous phase of water/sediment systems using "best fit" model

System	R^2	DT_{50} (d)	DT_{90} (d)
TNO	0.974	0.05	6.7
Kromme Rijn	0.990	0.01	0.13

Table A7.1.2.2.2 (1)-4: Loss of ^{14}C-DDAC (dissipation rates and half lives) from aqueous phase of water/sediment systems using 1st order model

System	R^2	A (%)	K_1 (d^{-1})	$t_{½}$ (d)
TNO	0.917	69.0 ± 5.2	0.41 ± 0.08	1.7
Kromme Rijn	0.904	60.4 ± 10.6	1.92 ± 0.62	0.4

Section 7.1.2.2.2 Annex Point III-A.7.1.2.2.2	Water/sediment degradation study	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [X] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification	[redacted]	
Conclusion		
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	

Section 7.1.2.2.2 Annex Point III-A.7.1.2.2.2	Water/sediment degradation study
Date	*Give date of comments submitted*
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*
Conclusion	*Discuss if deviating from view of rapporteur member state*
Remarks	

Section 7.1.3 Annex Point IIA.7.1.3	Adsorption/desorption screening test	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [X] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.1.4 Annex Point III-A.7.1.4	Studies on adsorption and desorption in water/sediment systems	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [X] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]	*Give date on which the data will be handed in later (Only acceptable if test or study is already being conducted and the responsible CA has agreed on the delayed data submission.)*	
	Evaluation by Competent Authorities	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification	[redacted]	
Conclusion	*Agreed with applicant justification.*	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	

Section 7.1.4 Annex Point III-A.7.1.4	Studies on adsorption and desorption in water/sediment systems
Conclusion	*Discuss if deviating from view of rapporteur member state*
Remarks	

Section 7.1.4.1 Annex Point III-A.7.1.4.1	Field study on accumulation in the sediment	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [X] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	

Section 7.1.4.1 Annex Point III-A.7.1.4.1	Field study on accumulation in the sediment
Conclusion	*Discuss if deviating from view of rapporteur member state*
Remarks	

Section 7.2 Fate and behaviour in soil
Annex Point 7.2 – headline only

Section 7.2.1 Annex Point III-A.7.2.1	Aerobic degradation in soil, initial study	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] Limited exposure [ ]	Technically not feasible [ ] Scientifically unjustified [X] Other justification [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.2.2 Aerobic degradation in soil, further studies
Annex Point IIA 7.2.2 – headline only

Section 7.2.2.1 **Annex Point III-A.7.2.2.1**	**Rate and route of degradation, including the identification of the processes involved and identification of any metabolites and degradation in at least three soil types under appropriate conditions**	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [ ]	**Technically not feasible** [ ] **Scientifically unjustified** [X] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	

Section 7.2.2.1 Annex Point III-A.7.2.2.1	**Rate and route of degradation, including the identification of the processes involved and identification of any metabolites and degradation in at least three soil types under appropriate conditions**
Remarks	

Section 7.2.2.2 Annex Point III-A.7.2.2.2	Field soil dissipation and accumulation	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [X]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.2.2.3 Annex Point III-A.7.2.2.3	Extent and nature of bound residues in soil	
	JUSTIFICATION FOR NON-SUBMISSION OF DATA	Official use only
Other existing data [ ] **Limited exposure** [X]	**Technically not feasible** [ ] **Scientifically unjustified** [ ] **Other justification** [ ]	
Detailed justification:	[redacted]	
Undertaking of intended data submission [ ]		
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Evaluation of applicant's justification		
Conclusion	Agreed with applicant justification	
Remarks		
	COMMENTS FROM OTHER MEMBER STATE *(specify)*	
Date	*Give date of comments submitted*	
Evaluation of applicant's justification	*Discuss if deviating from view of rapporteur member state*	
Conclusion	*Discuss if deviating from view of rapporteur member state*	
Remarks		

Section 7.2.2.4(1) Annex Point IIA 7.2.2.4	Photolysis in Soil	
	1. REFERENCE	Official use only
1.1 Reference	Schmidt, J. (1992) Determination of the Photolysis Rate of Didecyldimethylammonium Chloride on the Surface of Soil. Report No. 39505. ABC Laboratories, Columbia, MO, USA (Unpublished). Ref No.: D38 (LON 3069)	
1.2 Data protection	Yes	
1.2.1 Data owner	The Dialkyl Project	
1.2.2 Criteria for data protection	Data submitted to the MS before 14 May 2000 on existing a.s. for the purpose of its entry into Annex I/IA	
	2. GUIDELINES AND QUALITY ASSURANCE	
2.1 Guideline study	Yes U.S. EPA-FIFRA, 40 CFR 158.130, Guideline N-161-3 1992	
2.2 GLP (only where required)	Yes	
2.3 Deviations	No	
	3. MATERIALS AND METHODS	
3.1 Test material	[redacted]	
3.1.1 Lot/Batch number	[redacted]	
3.1.2 Specification	As given in Section 2 of Annex IIA of Directive 98/8/EC, especially Sections 2.6-2.8 therein. Active substance (a.s.), Didecyldimethylammonium Chloride (DDAC; CAS RN 7173-51-5), in aqueous/alcohol solution.	
3.1.3 Description	[redacted]	
3.1.4 Purity	[redacted]	
3.1.5 Stability	The non-radiolabelled a.s., DDAC, is hydrolytically and photolytically stable under the conditions of this study and has been shown to be stable in aqueous, alcohol and alcohol/aqueous solutions for extended periods, *e.g.* at least seven years under standard laboratory conditions (see	

Section 7.2.2.4(1) Annex Point IIA 7.2.2.4	Photolysis in Soil	
	Section 2.6.1 of Annex IIA).	
3.2 Test system	Sandy loam	
3.3 Test procedure	[redacted]	
3.3.1 Light source	[redacted]	
3.3.2 Light spectrum	[redacted]	
	4. RESULTS	
4.1 Results of test substance		
4.1.1 Initial concentration of test substance	[redacted]	
4.2 Residues		
4.2.1 Extractable residues	Decreased from 90.5% to 80.8% (exposed) and 81.1% (non-exposed)	
4.2.2 Soil bound residues	Increased from 9.48% to 25.2% (exposed) and 20.9% (non-exposed)	
4.2.3 Extractable bound residues	73.8 to 74% recovered, no significant degradation products	
4.3 Degradation%	No significant degradation, only parent compound obtained	
4.4 Half life	An accurate estimate of the half-life for the photolysis could not be determined since no significant degradation of the test compound was detected during the 30 day evaluation period. Calculations of half-lives were: $t_{1/2}$ = 132 days (exposed) $t_{1/2}$ = 169 days (non-exposed)	
4.5 Rate constants	5.26×10^{-3} $days^{-1}$ (exposed) 4.11×10^{-3} $days^{-1}$ (non-exposed)	
4.6 Remarks	The mean ^{14}C-mass balance was 104% for exposed and non-	

Section 7.2.2.4(1) Annex Point IIA 7.2.2.4	Photolysis in Soil	
	exposed test systems.	
	5. APPLICANT'S SUMMARY AND CONCLUSION	
5.1 Materials and methods	[redacted]	
5.2 Results and discussion	[redacted]	
5.3 Conclusion	The test substance was stable and not subject to photodegradation on soil.	
5.3.1 Reliability	[redacted]	
5.3.2 Deficiencies	[redacted]	
	Evaluation by Competent Authorities	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted	
	EVALUATION BY RAPPORTEUR MEMBER STATE	
Date	[redacted]	
Materials and Methods		
Results and discussion		
Conclusion	[redacted]	
Reliability	[redacted]	
Acceptability	acceptable	

Section 7.2.2.4(1) Annex Point IIA 7.2.2.4	Photolysis in Soil
Remarks	
	COMMENTS FROM OTHER MEMBER STATE *(specify)*
Date	*Give date of the 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*