

**Section A7.1.1.1.2**      **Phototransformation in water including identity of transformation products**  
**Annex Point IIA7.6.2.2**

			Official use only
		<b>1 REFERENCE</b>	
<b>1.1</b>	<b>Reference</b>	E. Hellpointner, 1990, Assessment of the Environmental Half-Life of the Direct Photodegradation of Dichlofluanid in Water, Bayer AG , Crop Protection Research, Environmental Research, Institute for Metabolism Research, Monheim, Germany, Report No. PF-3449, 1990-12-17.	
<b>1.2</b>	<b>Data protection</b>	Yes	
1.2.1	Data owner	Bayer Crop Science AG	
1.2.2	Companies with letter of access	Bayer Chemicals AG	
1.2.3	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	
		<b>2 GUIDELINES AND QUALITY ASSURANCE</b>	
<b>2.1</b>	<b>Guideline study</b>	Yes, Test Guideline "Phototransformation of Chemicals in Water, Part A: Direct Phototransformation " UBA (German "Umweltbundesamt"); January 1990	
<b>2.2</b>	<b>GLP</b>	Yes	X
<b>2.3</b>	<b>Deviations</b>	No	
		<b>3 MATERIALS AND METHODS</b>	
<b>3.1</b>	<b>Test material</b>	Dichlofluanid = N-(dichlorofluoromethylthio)-N',N'-dimethyl-N-phenylsulfamide	
3.1.1	Lot/Batch number	██████████	
3.1.2	Specification	As given in Section 2 of the dossier	
3.1.3	Purity	██████	
3.1.4	Radiolabelling	no	
3.1.5	UV/VIS absorption spectra and absorbance value	UV/VIS absorption spectra and extinction data are given in the report: → no measurable absorbance at wavelengths above 287 nm	
3.1.6	Further relevant properties	low water solubility: 1.3 mg/l	
<b>3.2</b>	<b>Reference substances</b>	not available from the report	X
<b>3.3</b>	<b>Test solution</b>	Due to the very low water solubility of dichlofluanid an absorption spectrum in pure water could not be recorded.  An amount of 14.2 mg test substance was dissolved in 100 ml water/acetonitrile 1:1 (v:v) and finally diluted 1:10 (v:v). Thus, the concentration was 14.2 mg dichlofluanid per liter of water/acetonitrile 1:1 (v:v). The reference cuvette in the UV-spectrometer was filled with water/acetonitrile 1:1 (v:v).	X
<b>3.4</b>	<b>Testing procedure</b>		

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3.4.1	Test system	The UV spectra were recorded using a UV-Vis spectrometer DMS 90 (Varian Co.) with Apple IIe as evaluation unit.
3.4.2	Properties of light source	n.a.
3.4.3	Determination of irradiance	n.a.
3.4.4	Temperature	n.a.
3.4.5	pH	n.a.
3.4.6	Duration of the test	n.a.
3.4.7	Number of replicates	n.a.
3.4.8	Sampling	n.a.
3.4.9	Analytical methods	HPLC with UV detection (for the analysis of the aqueous solutions of dichlofluanid)
<b>3.5</b>	<b>Transformation products</b>	No
3.5.1	Method of analysis for transformation products	n.a.
<b>4      RESULTS</b>		
4.1	Screening test	no measurable absorbance at wavelengths above 287 nm → see point 3.1.5  According to the UBA guideline the photodegradation experiment was not carried out, because the UV spectrum showed no UV absorption above 290 nm.
4.2	Actinometer data	n.a.
4.3	Controls	n.a.
4.4	Photolysis data	
4.4.1	Concentration values	n.a.
4.4.2	Mass balance	n.a.
4.4.3	$k_p^c$	n.a.
4.4.4	Kinetic order	n.a.
4.4.5	$k_p^c / k_p^a$	n.a.
4.4.6	Reaction quantum yield ( $\phi^c_E$ )	not determined;  The determination of the quantum yield of the direct photodegradation in water is only necessary if the molar absorption coefficient of the test compound at a wavelength above 294 nm is greater than 10 (l/mol cm).
4.4.7	$k_{pE}$	see point 4.4.8

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4.4.8	Half-life ( $t_{1/2E}$ )	Assuming the maximum quantum yield of 1 a half-live of > 1 year in environmental water bodies results due to the missing sunlight absorption of the dichlofluanid molecule.	X
4.5	<b>Specification of the transformation products</b>	n.a.	
<b>5      APPLICANT'S SUMMARY AND CONCLUSION</b>			
5.1	<b>Materials and methods</b>	Test was performed according to guideline "Phototransformation of Chemicals in Water, Part A: Direct Phototransformation" UBA (German "Umweltbundesamt"); January 1990.  According to the UBA guideline the photodegradation experiment was not carried out, because the UV spectrum showed no UV absorption above 290 nm.	
5.2	<b>Results and discussion</b>	No light absorbance above 287 nm was found in the UV spectrum of dichlofluanid in water. Therefore dichlofluanid is assumed to be stable against direct photolysis in water.	
5.2.1	$k_p^c$	n.a.	
5.2.2	$K_{pE}$	See point 5.2.4	
5.2.3	$\phi_E^c$	n.a.	
5.2.4	$t_{1/2E}$	Assuming the maximum quantum yield of 1 a half-live of > 1 year in environmental water bodies results due to the missing sunlight absorption of the dichlofluanid molecule.	
5.3	<b>Conclusion</b>	Due to its lack of UV absorbance in the sunlight region dichlofluanid is not degradable by <u>direct</u> phototransformation. Even under the assumption of a quantum yield of 1 the assessments of the environmental half-life by means of computer models would yield values of several years.	
5.3.1	Reliability	Reliability indicator = 1	
5.3.2	Deficiencies	No	

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<b>Evaluation by Competent Authorities</b>	
	Use separate "evaluation boxes" to provide transparency as to the comments and views submitted
	<b>EVALUATION BY RAPPORTEUR MEMBER STATE</b>
<b>Date</b>	16/11/04
<b>Materials and Methods</b>	Applicant's version is acceptable with the following comments: 2.2 The study was done to GLP but there are no signatures on the report submitted. 3.2 The use of reference substances was not evident from the report. 3.3 The presence of 50 % acetonitrile in the test solution seems unnecessarily high in a study reported to be on dichlofluanid in water.
<b>Results and discussion</b>	Applicant's version is acceptable with the following comment: 4.4.8 The half-life proposed is based on assumption, but is consistent with the conclusion that dichlofluanid does not degrade by direct photodegradation.
<b>Conclusion</b>	Applicant's version is acceptable.
<b>Reliability</b>	1
<b>Acceptability</b>	Acceptable
<b>Remarks</b>	All endpoints and data presented in the summary and tables have been checked against the original summary and are correct.
	<b>COMMENTS FROM ...</b>
<b>Date</b>	<i>Give date of comments submitted</i>
<b>Materials and Methods</b>	<i>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</i>
<b>Results and discussion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Conclusion</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Reliability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Acceptability</b>	<i>Discuss if deviating from view of rapporteur member state</i>
<b>Remarks</b>	