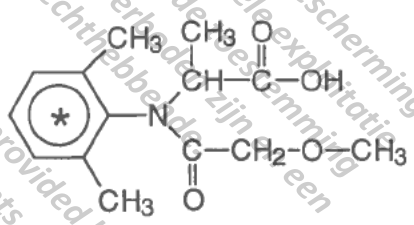


Annex Point addressed	II	Adsorption and Desorption
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1.2	Title	Adsorption/desorption of ¹⁴ C-CGA 62826 by the batch equilibrium method on representative agricultural soils
1.3	Report and/or project N° Ciba File N° (Desire)	No. 12225 62826/9
1.4	Lab. Report N°	12220
1.5	Cross reference to original study / report	7.1.2.1/07
1.6	Authors	Report: Summary:
1.7	Date of report	August 19, 1996
1.8	Published / owner	Unpublished / Ciba-Geigy Limited
2.1	Testing facility	Agrisearch Incorporated, 5734 Industry Land, Frederick, MD 21704, USA
2.2	Dates of experimental work	February 19 - August 19, 1996
3.	Objectives	To determine the adsorption and desorption constants for CGA 62826
4.1	Test substance	ISO common name: CGA 62826 Batch: ¹⁴ C-labelled test substance Yes [x] No [] Specific activity of [¹⁴ C] (40.4 μCi/mg) Radiochemical purity of the test substance: 98.2% Structural formula: (position of label) 
	Formulation used for study:	Yes [] No [x]
	Type of formulation (if used):	
	Co-solvent for application (if used):	Methanol
4.2	Specification	See sect. 4.1
4.3	Storage stability	Not specified in the report
4.4	Stability in vehicle	Not specified in the report
4.5	Homogeneity in vehicle	Not specified in the report
4.6	Validity	Adsorption and desorption samples shaken for 24 hours.
5	Vehicle / solvent	Methanol
6	Physical form	Not specified in the report
7.1	Test method	Pesticide Assessment Guidelines, Subdivision N Chemistry: Environmental Fate, Series 163-1 U.S. Environmental Protection Agency, Office of Pesticide and Toxic Substances, Washington D.C. 20460: EPA 540/9-82-021, October 18 1982, NTIS PB83-153973.

- 7.2 Justification Not applicable
- 7.3 Copy of method Details of the method used are presented in the report
- 8 Choice of method Not relevant
- 9 Deviations Not relevant
- 10.1 Certified laboratory No
- 10.2 Certifying authority Not relevant
- 10.3 GLP Yes
- 10.4 Justification Not applicable
- 11.1 GEP Not applicable
- 11.2 Type of facility (official or officially recognised) Not applicable
- 11.3 Justification Not applicable

12 Test system

System		1	2	3
Origin of soil:		Mississippi	Maryland	California
Classification		Clay	Sand	SandyLoam
Particle size distribution:	% sand	12	91	63
	% silt	25	3	29
	% clay	63	6	8
Organic matter content:	(%)	2.1	0.6	1.0
Organic carbon content	(%)	1.218	0.348	0.58
pH:		6.1	5.4	6.9
Cation exchange capacity	(meq/100 g soil)	38.5	3.4	5.4
Bulk density (air dried and sieved (2 mm) soil)	(g/ml)	1.08	1.47	1.13
Field capacity	(ml H ₂ O/100 g dry soil)	42.0	5.0	11.8

System		4	5
Origin of soil:		Washington	Arizona
Classification		Loam	Clay Loam
Particle size distribution:	% sand	47	35
	% silt	36	35
	% clay	17	30
Organic matter content:	(%)	2.2	1.0
Organic carbon content	(%)	1.276	0.58
pH:		7.0	7.9
Cation exchange capacity	(meq/100 g soil)	19.1	40.6
Bulk density (air dried and sieved (2 mm) soil)	(g/ml)	1.05	1.06
Field capacity	(ml H ₂ O/100 g dry soil)	21.4	26.5

Test conditions		
Incubation temperature	25 ± 1 °C	
Soil:solution ratio:	1 g or 4 g or 10 g soil to 20 ml of stock solution	
Equilibration time:	adsorption	3 hours
	desorption	4 hours
Concentrations used:	0.204, 0.502, 1.005, 4.966, 10.0077 ppm	
Analytical Method:	Liquid Scintillation Counting (LSC) and Thin Layer Chromatography and HPLC (TLC)	

13 Findings

Test results						
Soil		1	2	3	4	5
Adsorption	k	0.9	0.1	0.02	0.1	0.1
	n	1.056	1.078	1.154	1.100	1.077
	K _{oc}	72	36	3	8	17
Desorption	k	3.8	1.6	> 1	11.4	> 1
	n	1.031	1.089	nr	0.0877	nr
	K _{oc}	311	473	172	895	172

n.r.: Not reported

The results demonstrated that the Freundlich isotherm was applicable to analysis of the adsorption and desorption phenomena of CGA 62826. Logarithmic plots of data yielded a straight line for all soils tested for both adsorption and desorption. CGA 62826 was determined to adsorb little to any of the soil types and classified as having a high to very high mobility with K_{oc} values between 3 and 72.

14 Statistics

Linear regression was used to determine adsorption and desorption k values and linearity constants.

15 References (published)

None

16 Unpublished data

None

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