12-14-89

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
CHLORFENVINPHOS
Last Update on December 14, 1989
[V] = Validated Study [S] = Supplemental Study [U] = USDA Data

Common Name:CHLORFENVINPHOS
Smiles Code:Cl-c(cc(Cl)c1C(OP(=O)(OCC)OCC)=CCl)cc1
PC Code # : 84101 CAS #:470-90-6 Caswell #:

Chem. Name :2-CHLORO-1-(2,4-DICHLOROPHENYL) VINYL DIETHYL PHOSPHATE

Action Type:INSECTICIDE; ACARICIDE

Trade Names:APACHLOR; BIRLANE; SUPONA
(Formul'tn):EC; WP; GRANULES; SEED TREATMENTS
Physical State:

Use :AS PREHARVEST INSECTICIDE FOR CONTROL OF VARIOUS ROOT FLIES
Patterns :IN RROT-VEGETABLES.
(% Usage) :
:

Empirical Form: $C_{12}H_{14}PO_4Cl_3$
Molecular Wgt.: 359.57 Vapor Pressure: 1.70E -7 Torr
Melting Point : °C Boiling Point: °C
Log Kow : pKa: @ °C
Henry's : E Atm. M3/Mol (Measured)

Solubility in ...					Comments
Water	E	ppm	@	°C	
Acetone	E	ppm	@	°C	
Acetonitrile	E	ppm	@	°C	
Benzene	E	ppm	@	°C	
Chloroform	E	ppm	@	°C	
Ethanol	E	ppm	@	°C	
Methanol	E	ppm	@	°C	
Toluene	E	ppm	@	°C	
Xylene	E	ppm	@	°C	
	E	ppm	@	°C	
	E	ppm	@	°C	

Hydrolysis (161-1)
[V] pH 5.0:STABLE
[V] pH 7.0:STABLE
[V] pH 9.0:>400 HOURS AT 38 C
[V] pH :pH 10.5 AND 50 C, 3 HRS
[ ] pH :
[ ] pH :

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Photolysis (161-2, -3, -4)
[ ] Water:
[ ] :
[ ] :
[ ] :

[ ] Soil :
[ ] Air :

Aerobic Soil Metabolism (162-1)
[V] 34 DAYS AT 38 C IN A RIPPERDAN
[ ] SOIL
[V] 50 DAYS AT 22 C IN A SACRA-
[ ] MENTO CLAY SOIL
[ ]
[ ]
[ ]

Anaerobic Soil Metabolism (162-2)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Anaerobic Aquatic Metabolism (162-3)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Aerobic Aquatic Metabolism (162-4)
[ ]
[ ]
[ ]
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Soil Partition Coefficient (Kd) (163-1)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Soil Rf Factors (163-1)
[S] VERY LITTLE LEACHING OF PAR-
[ ] ENT AND NO DETECTABLE LEACH-
[ ] ING OF DEGRADATES IN SOIL.
[ ]
[ ]
[ ]

Laboratory Volatility (163-2)
[ ]
[ ]

Field Volatility (163-3)
[ ]
[ ]

Terrestrial Field Dissipation (164-1)
[V] 2 TO 12 WEEKS IN MINERAL SOILS TREATED AT 4 AND 8 LBS AIA,
[ ] AND 16 TO 23 WEEKS IN PEAT SOIL.
[V] IN SdLm CONTAINING .4 AND .5 MG/KG IMMEDIATELY AFTER TREAT-
[ ] MENT, CONCENTRATIONS WERE .5 AND .1, RESPECTIVELY, AFTER
[ ] 90 DAYS.
[ ]
[ ]
[ ]
[ ]
[ ]

Aquatic Dissipation (164-2)
[ ]
[ ]
[ ]
[ ]
[ ]
[ ]

Forestry Dissipation (164-3)
[ ]
[ ]

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Long-Term Soil Dissipation (164-5)
[ ]
[ ]

Accumulation in Rotational Crops, Confined (165-1)
[ ]
[ ]

Accumulation in Rotational Crops, Field (165-2)
[ ]
[ ]

Accumulation in Irrigated Crops (165-3)
[ ]
[ ]

Bioaccumulation in Fish (165-4)
[ ]
[ ]

Bioaccumulation in Non-Target Organisms (165-5)
[ ]
[ ]

Ground Water Monitoring, Prospective (166-1)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Small Scale Retrospective (166-2)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Large Scale Retrospective (166-3)
[ ]
[ ]
[ ]
[ ]

Ground Water Monitoring, Miscellaneous Data (158.75)
[ ]
[ ]
[ ]

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Field Runoff (167-1)
[ ]
[ ]
[ ]
[ ]

Surface Water Monitoring (167-2)
[ ]
[ ]
[ ]
[ ]

Spray Drift, Droplet Spectrum (201-1)
[ ]
[ ]
[ ]
[ ]

Spray Drift, Field Evaluation (202-1)
[ ]
[ ]
[ ]
[ ]

Degradation Products

Degradates and amounts in soil after 4 months, starting with 15 ppm:

1-(2,4-dichlorophenyl)ethan-1-OL	(.06-1.0 ppm)
2,4-dichloroacetophenone	(.1-.5 ppm)
desethyl chlorfenvinphos	(.1-.2 ppm)
salts or conjugates of desethyl chlor.	(.05-.06 ppm)

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Comments

Field studies show that at 4-6 lb AIA, residues of 1-(2,4-dichlorophenyl)ethan-1-ol and 2,4-dichloroacetophenone do not exceed 0.2 ppm by the end of the growing season.

References: EPA REVIEWS
Writer : PJH