

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY

METALAXYL

Last Update on August 9, 1993

[V] = Validated Study [S] = Supplemental Study [U] = USDA Data

Common Name: METALAXYL

Smiles Code: c(cc(C)c1N(C(=O)COC)C(C(=O)OC)C)cc1C

PC Code # : 113501

CAS #: 57837-19-1

Caswell #:

Chem. Name : N-(2,6-DIMETHYLPHENYL)-N-(METHOXYACETYL)-ALANINE
METHYL ESTER

Action Type: FUNGICIDE

Trade Names: APRON 25WP; CGA 48988; RIDOMIL

(Formul'tn): EC 2 LBS/GAL; FLOWABLE CONC.

Physical State:

Use : CONTROL OF SOIL-BORNE DISEASES CAUSED BY PHYTIUM AND PHYTO-
Patterns : PHORA, AND FOLIAR DISEASES CAUSED BY DOWNY MILDEW.
(% Usage) :
:

Empirical Form: C₁₅H₂₁NO₄

Molecular Wgt.: 279.34

Vapor Pressure: 2.20E -6 Torr

Melting Point : 71.8-72.C °C

Boiling Point: °C

Log Kow :

pKa: @ °C

Henry's : E

Atm. M3/Mol (Measured) 1.14E-10 (calc'd)

Solubility in ...

Comments

Water	7.10E 3	ppm	@20.0 °C	
Acetone	E	ppm	@ °C	
Acetonitrile	E	ppm	@ °C	
Benzene	55.00E	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 5.0:200 DA

[V] pH 7.0:200 DA

[V] pH 9.0:115 DA

[] pH :

[] pH :

[] pH :

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Photolysis (161-2, -3, -4)

[V] Water: 1 WK
[] :
[] :
[] :

[V] Soil : STABLE
[] Air :

Aerobic Soil Metabolism (162-1)

[S] 7 WK (SOIL?)
[V] 40 DAYS
[]
[]
[]
[]
[]

Anaerobic Soil Metabolism (162-2)

[V] 60 DAYS
[]
[]
[]
[]
[]
[]

Anaerobic Aquatic Metabolism (162-3)

[V] 21.7 AND 26.9 DAYS IN SEDIMENT AND WATER PHASES, RESPECTIVELY.
[]
[]
[]
[]
[]
[]

Aerobic Aquatic Metabolism (162-4)

[S] 55.11 DAYS IN SOIL + WATER. 70 DAYS IN SOIL AND 41 DAYS IN H2O.
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Soil Partition Coefficient (Kd) (163-1)

- [S] 0.43-0.48 SAND
- [S] 0.87 SILT LOAM
- [S] 1.40 SANDY CLAY LOAM
- []
- []
- []

Soil Rf Factors (163-1)

- [S] 70% IN LEACHATE
- []
- []
- []
- []
- []

Laboratory Volatility (163-2)

- [S] LOSS DUE TO VOLATILIZATION SHOULD BE <0.5%.
- []

Field Volatility (163-3)

- []
- []

Terrestrial Field Dissipation (164-1)

- [S] 2 WK (SOIL?). MAJOR DEGRADATE PEAKED DURING THE FIRST
- [] MONTH AT 20%, DECLINED TO 0.5% OF THE APPLIED AT A YEAR.
- [] HOWEVER, IN ANOTHER STUDY THE AMT. REMAINING IN A YEAR WAS
- [] 23% OF THAT APPLIED.
- []
- [] 3 STUDIES PRODUCED HALF-LIVES OF 38, 50 AND 56 DAYS. PARENT AND
- [] CGA LEACHED TO 36-48" SOIL DEPTH
- []
- []
- []

Aquatic Dissipation (164-2)

- [S] 20 DAYS FROM PADDY WATER AND 24 DAYS FROM SOIL.
- [S] 5 DAYS FROM PADDY WATER AND 11 DAYS FROM SOIL.
- []
- []
- []
- []

Forestry Dissipation (164-3)

- []
- []

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Long-Term Soil Dissipation (164-5)

[]
[]

Accumulation in Rotational Crops, Confined (165-1)

[S] LETTUCE-.11 PPM; OATS (WHOLE PLANT) .33;
[] CORN .06 PPM; SOYBEANS 0.8 PPM; SUGARBEETS .16 PPM.

Accumulation in Rotational Crops, Field (165-2)

[S] PLANTED IN ROTATION TO POTATOES: CORN .02 PPM;
[] SUGARBEETS <.05 IN ROOTS; SOYBEANS .83 PPM

Accumulation in Irrigated Crops (165-3)

[]
[]

Bioaccumulation in Fish (165-4)

[] BLUEGILL 1X EDIB; 14X VISC; 6X WHOLE; RAPID DEPURATION.
[] CATFISH 1X EDIB; 1X VISC; 1X WHOLE; RAPID DEPURATION.

Bioaccumulation in Non-Target Organisms (165-5)

[S] NO ADVERSE EFFECTS EXPECTED ON AVIAN, MAMMALIAN,
[] OR FRESHWATER AQUATIC SPECIES.

Ground Water Monitoring, Prospective (166-1)

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[]
[]

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

[] Requirement for ground-water monitoring studies has been
[] waived pending regulatory action.
[]
[]

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

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[]
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Ground Water Monitoring, Miscellaneous Data (158.75)

[S] Metalaxyl was reported in ground water in Florida,
[] North Carolina, and Tennessee. Concentrations range from 0.27
[] 236 ppb. .

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Field Runoff (167-1)

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Surface Water Monitoring (167-2)

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Spray Drift, Droplet Spectrum (201-1)

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Spray Drift, Field Evaluation (202-1)

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Degradation Products

(N-(2,6-dimethylphenyl)-N-(2'-methoxyacetyl) alanine is the major degradate.

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Comments

Parent compound leached rapidly in sand soils with up to 92% of radioactivity recovered in leachate. In SdClIm soils, majority of radioact. was in 6-12 cm soil with less than 0.4% in leachate. Soil Koc = 16. Up to 31% of CGA-62826 was detected in leachates.

References: EFGWB REVIEWS
Writer : SJS, PJH, SLL, EW, RJM