

US EPA ARCHIVE DOCUMENT

Environmental Fate & Effects Division
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY
VINCLOZOLIN

Last Update on March 21, 1991

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

Common Name: VINCLOZOLIN

Smiles Code:

PC Code # : 113201

CAS #:

Caswell #:

Chem. Name : 3-(3,5-DICHLOROPHENYL)-5-ETHENYL-5-METHYL-2,4-OXAZOLIDINE-DIONE

Action Type: FUNGICIDE

Trade Names: RONILAN; ORNALIN; VORLAN

(Formul'tn): 50% WP; 500G/L FLOWABLE

Physical State:

Use : CONTROL OF BOTRYTIS, SCLEROTINIA, MONILIA SPECIES IN GRAPES,
Patterns : STRAWBERRY, RAPE, SOFT FRUITS, VEGETABLES, ORNAMENTALS
(% Usage) :

Empirical Form: $C_{12}H_9NO_3Cl_2$

Molecular Wgt.: 286.10

Vapor Pressure: $2.60E^{-6}$ Torr

Melting Point : °C

Boiling Point: °C

Log Kow : 3.02

pKa: e °C

Henry's : E Atm. M3/Mol (Measured)

$3.76E^{-7}$ (calc'd)

Solubility in ...

Comments

Water	2.60E	ppm	@20.0 °C
Acetone	E	ppm	e °C
Acetonitrile	E	ppm	e °C
Benzene	E	ppm	e °C
Chloroform	E	ppm	e °C
Ethanol	E	ppm	e °C
Methanol	E	ppm	e °C
Toluene	E	ppm	e °C
Xylene	E	ppm	e °C

Hydrolysis (161-1)

[] pH 5.0:

[] pH 7.0:

[S] pH 9.0: 12 MINUTES

[S] pH 6.0: 61 HOURS

[S] pH 3.0: 70 DAYS

[] pH : NEW HYDROLYSIS DATA TO BE REVIEWED IN PHASE V.

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

- [] Air :
- [S] Soil :19 DAYS ON LOAMY SAND
- [S] Water:SENSITIZED PHOTOLYSIS AT pH 2-3 GAVE T1/2 OF <4 HRS.
- [S] :NO PHOTOLYSIS OBSERVED AT pH 1.94 (UNSENSITIZED).
- [] :
- [] :NEW PHOTOLYSIS DATA TO BE SUBMITTED IN PHASE V.

Aerobic Soil Metabolism (162-1)

- [S] 3-7 WEEKS, LOAMY SAND, pH 6.8
- [S] 3-4 DAYS, LOAM SOIL
- []
- [] ADDL AEROBIC SOIL DATA REQUESTED.
- []
- []
- []

Anaerobic Soil Metabolism (162-2)

- [S] SLOWER THAN AEROBIC
- []
- [] ADDL ANAEROBIC SOIL METAB DATA TO BE REVIEWED IN PHASE V.
- []
- []
- []
- []

Anaerobic Aquatic Metabolism (162-3)

- []
- []
- []
- []
- []
- []
- []

Aerobic Aquatic Metabolism (162-4)

- []
- []
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- []

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Soil Partition Coefficient (Kd) (163-1)

[]	SOIL	CEC	Kads	Kdes
[]	LOAM	13	.593	
[]	Lm SAND	10	9.683	
[]	SAND	3.7	1.383	4.623
[]	(TEMP. = 30 C FOR 1ST AND 3RD,			
[]	22 C FOR SECOND)			

Soil Rf Factors (163-1)

[V] DID NOT LEACH IN SOIL COLUMN;
[] AGED RESIDUES LEACHED WEAKLY.
[]
[] ADDL LEACHING/ADSORPTION/DESORPTION DATA TO BE REVIEWED IN
[] PHASE V.
[]

Laboratory Volatility (163-2)

[] DATA REQUESTED BY EFGWB.
[]

Field Volatility (163-3)

[]
[]

Terrestrial Field Dissipation (164-1)

[S] IN CA, ND, AND OR STRAWBERRY PLOTS, RESIDUES GREATER THAN
[] .05 PPM WERE DETECTED ONLY IN THE TOP 12" OF SOIL.
[]
[] ADDL TERR. FIELD DISSIPATION DATA TO BE SUBMITTED
[]
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Aquatic Dissipation (164-2)

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Forestry Dissipation (164-3)

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Long-Term Soil Dissipation (164-5)

[]
[]

Accumulation in Rotational Crops, Confined (165-1)

[S] NO ACCUMULATION IN LETTUCE
[] ADDL DATA REQUESTED IN PHASE IV REVIEW.

Accumulation in Rotational Crops, Field (165-2)

[S] LEAFY VEGETABLES AFTER 6 MOS, CUCURBITS AND CORN
[] AFTER 2 MOS, OTHER GRAINS AFTER 9 MOS. ADDL DATA TO BE SUBMITTED

Accumulation in Irrigated Crops (165-3)

[]
[]

Bioaccumulation in Fish (165-4)

[S] BLUEGILL SUNFISH BCF: EDIBLE, 106X; NON-EDIBLE, 321X;
[] WHOLE 241X. DEPURATION 97-98% AFTER 2 WKS; ADDL INFO REQUESTED.

Bioaccumulation in Non-Target Organisms (165-5)

[]
[]

Ground Water Monitoring, Prospective (166-1)

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

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

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[]
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Ground Water Monitoring, Miscellaneous Data (158.75)

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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-(3,5-dichlorophenyl)-2-hydroxy-2-methyl-3 butenoic acid imide
3,5-dichlorophenyl-carbamic acid (1-carboxy-1-methyl) allyl ester.
3,5-dichloroaniline
3-(3,5-dichlorophenyl)-5-methyl-1,3-oxazolidine-2,4-dione

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Comments

Soil Koc = 43,000.

Vinclozolin is a List B chemical. As of March 1991 (the Phase IV package review), no environmental fate data requirements have been completely satisfied. All data above are from supplemental studies.

References: EPA REVIEWS
Writer : PJH; updated 3/21/91 by AJones