

7-23-92

Environmental Fate & Effects Division			
PESTICIDE ENVIRONMENTAL FATE ONE LINE SUMMARY			
CHLOROTHALONIL			
Last Update on July 23, 1992			
[V] = Validated Study		[S] = Supplemental Study	[U] = USDA Data
LOGOUT	Reviewer: <i>gkw</i>	Section Head: <i>DW</i>	Date: 7/23/92

Common Name: CHLOROTHALONIL

PC Code # : 31901

CAS #: 1897-45-6

Caswell #:

Chem. Name : TETRACHLOROISOPHTHALONITRILE

Action Type: Fungicide

Trade Names: BRAVO; CLORTOCAFFARO; CLORTOSIP; DACONIL 2787

(Formulation): WP; G; PELLET; L; SOLUBLE CONC.

Physical State: COLORLESS ODORLESS CRYST.

Use : FRUITS/VEGETABLES/PEANUTS/TURF/ORNAMENTALS
 Patterns :
 (% Usage) :
 :

Empirical Form: $C_8Cl_4N_2$
 Molecular Wgt.: 265.91 Vapor Pressure: $2.00E^{-6}$ Torr
 Melting Point : 250 °C Boiling Point: 350 °C
 Log Kow : 2.88 pKa: @ °C
 Henry's : $5.83E^{-7}$ Atm. M3/Mol (Measured) $5.83E^{-7}$ (calc'd)

Solubility in ...

Water	1.20E	ppm	@20.0 °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

Comments

Hydrolysis (161-1)

[V] pH 5.0: STABLE
 [V] pH 7.0: STABLE
 [V] pH 9.0: 10% DEGRADED IN 30 DAYS
 [] pH :
 [] pH :
 [] pH :

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

[] Water:STABLE

[] :

[] :

[] :

[] Soil :STABLE

[] Air :

Aerobic Soil Metabolism (162-1)

[] SOIL NONSTERILE STERILE

[S] SiLm 36.5 DAYS 213.8 DAY

[S] LOAM 14.7 " 31.3 "

[S] SdLm 12.8 " 18.0 "

[S] SdLm 10.3 " 21.9 "

[]

[]

Anaerobic Soil Metabolism (162-2)

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Anaerobic Aquatic Metabolism (162-3)

[V] SiLm 9 DAYS

[V] SdLm 10 DAYS (LOG PLOT IS NON-LINEAR FOR BOTH)

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Aerobic Aquatic Metabolism (162-4)

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Soil Partition Coefficient (Kd) (163-1)

[] 20 SANDY LM 3.5%OM
[] 3 SAND 0.6%OM
[] 29 SILT 0.8%OM
[] 26 SILTY CL LM 3.2%OM
[]
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Soil Rf Factors (163-1)

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Laboratory Volatility (163-2)

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Field Volatility (163-3)

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Terrestrial Field Dissipation (164-1)

[] 26-56 DA (SOIL?)
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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)

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[]

Accumulation in Rotational Crops, Confined (165-1)

[V] RESIDUES DETECTED
[]

Accumulation in Rotational Crops, Field (165-2)

[V] RESIDUES DETECTED, TOLERANCE SETTING REQUIRED
[]

Accumulation in Irrigated Crops (165-3)

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[]

Bioaccumulation in Fish (165-4)

[] BLUEGILL 200X EDIBLE; 3000X VISCERA
[] CATFISH 9.4X EDIBLE; 25X VISCERA; 16X WHOLE

Bioaccumulation in Non-Target Organisms (165-5)

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Ground Water Monitoring, Prospective (166-1)

[] Protocol has been submitted and reviewed. Most likely a study
[] will be conducted in North Carolina on peanuts.
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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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Ground Water Monitoring, Miscellaneous Data (158.75)

[V] DETECTED IN ONLY TWO LOCATIONS - - LONG ISLAND AND CAPE COD
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[]

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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

4-hydroxy-2,5,6-trichloro-isophthalonitrile
2,4,5,6-tetrachloroisophthalimide (only degradate in hydrolysis)
3-cyano-2,4,5,6-tetrachlorobenzamide
2-hydroxy-5-cyano-3,4,6-trichlorobenzamide
3-carboxy-2,5,6-trichlorobenzamide

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Comments

Koc = 1380 (U)

References: Wauchope et al. 1992 Reviews of Env. Contam Tox.
Writer : PJH, JKW 123:1-164