



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
WASHINGTON, D.C. 20460

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

7/6/00

MEMORANDUM

SUBJECT: Vinclozolin: Drinking Water Levels of Concern Attributable to Vinclozolin Alone and Three Dicarboximide Fungicides Combined (Chemical I.D. No. 113201, DP Barcode D267147)

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This memorandum serves to document earlier communications involving carcinogenic Drinking Water Levels of Comparison (DWLOCs) calculated for 3,5-dichloroaniline (3,5-DCA) derived from Vinclozolin alone and from the following imide fungicides combined: Iprodione, Procymidone, and Vinclozolin. Three different scenarios of crops were included: currently registered; snap bean, canola, lettuce, and wine; and canola plus wine. DWLOCs were calculated at several levels of concern for 3,5-DCA derived from all three imides (from $1-7 \times 10^{-6}$) and Vinclozolin alone (from $1-3 \times 10^{-6}$). Please refer to Table 1 for a summary of the calculations used (column headings), exposure values, and DWLOCs. Only linear cancer risk is applicable to 3,5-DCA; the Q_1 used to calculate DWLOCs was 0.0638 derived from p-chloroaniline.

Table 1. Carcinogenic DWLOCs for 3,5-DCA Derived from Vinclozolin Alone and from Vinclozolin + Iprodione + Procymidone Combined

Scenario	Level of Concern (LOC)	$A = \frac{LOC^a}{0.0638}$	B = Total ^b food + wine exposure (mg/kg/day)	Chronic Water exposure (m ³ /k/d) (A - B = C)	D = Combined ^c (Vinclozolin alone) DWLOC = $C \times 70 \times 2 \times 0.001$ (ppb)
Currently registered	1×10^{-5}	1.57×10^{-5}	8.17×10^{-6}	7.47×10^{-6}	0.26 (0.47)
	2×10^{-6}	3.13×10^{-5}		2.31×10^{-5}	0.81 (1.0)
	3×10^{-6}	4.70×10^{-5}		3.88×10^{-5}	1.4 (1.6)
	4×10^{-6}	6.27×10^{-5}		5.45×10^{-5}	1.9
	5×10^{-6}	7.84×10^{-5}		7.02×10^{-5}	2.5
	6×10^{-6}	9.40×10^{-5}		8.58×10^{-5}	3.0
	7×10^{-6}	1.10×10^{-4}		1.02×10^{-4}	3.6
Snap bean + canola + lettuce + wine	1×10^{-6}	1.57×10^{-5}	7.62×10^{-6}	8.10×10^{-6}	0.28 (0.54)
	2×10^{-6}	3.13×10^{-5}		2.37×10^{-5}	0.83 (1.1)
	3×10^{-6}	4.70×10^{-5}		3.94×10^{-5}	1.4 (1.6)
	4×10^{-6}	6.27×10^{-5}		5.51×10^{-5}	1.9
	5×10^{-6}	7.84×10^{-5}		7.08×10^{-5}	2.5
	6×10^{-6}	9.40×10^{-5}		8.64×10^{-5}	3.0
	7×10^{-6}	1.10×10^{-4}		1.02×10^{-4}	3.6
Canola + wine	1×10^{-6}	1.57×10^{-5}	6.15×10^{-6}	9.50×10^{-6}	0.33 (0.55)
	2×10^{-6}	3.13×10^{-5}		2.51×10^{-5}	0.88 (1.1)
	3×10^{-6}	4.70×10^{-5}		4.08×10^{-5}	1.4 (1.6)
	4×10^{-6}	6.27×10^{-5}		5.65×10^{-5}	2.0
	5×10^{-6}	7.84×10^{-5}		7.22×10^{-5}	2.5
	6×10^{-6}	9.40×10^{-5}		8.78×10^{-5}	3.1
	7×10^{-6}	1.10×10^{-4}		1.04×10^{-4}	3.6

^a0.0638 is the Q_1^* for 3,5-DCA (derived from p-chloroaniline).

^bFood exposure represents the sum of the DCA derived from food and wine treated with vinclozolin, procymidone, and iprodione.

^cThe amounts of exposure attributable to each chemical are as follows:

Scenario	3,5-DCA Exposure (mg/kg/day)			
	Iprodione	Procymidone	Vinclozolin	Total
Currently registered	9.22×10^{-6}	5.8×10^{-6}	2.28×10^{-6}	8.17×10^{-6}
Bean/canola/lettuce/wine	9.22×10^{-6}	5.8×10^{-6}	1.73×10^{-6}	7.62×10^{-6}
Canola/wine	9.22×10^{-6}	5.8×10^{-6}	2.62×10^{-7}	6.15×10^{-6}

The DWLOCs in Table 1 are to be compared with the most recently refined Estimated Environmental Concentrations (EECs) calculated for 3,5-DCA by the Environmental Fate and Effects Division.

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