

US EPA ARCHIVE DOCUMENT

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

RF

OFFICE OF
PREVENTION, PESTICIDES AND
TOXIC SUBSTANCES

MEMORANDUM

SUBJECT: 93MI0008. Section 18 Exemption for Use of Chlorothalonil on Asparagus. DRES Dietary Exposure and Risk Estimates.

FROM: Richard Griffin *Richard Griffin* 5/14/93
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THROUGH: Debra Edwards, Chief *Debra Edwards*
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TO: Susan Stanton, PM 41
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Exposure/risk estimates are provided both for Chlorothalonil and the associated manufacturing impurity, Hexachlorobenzene.

Toxicological endpoints for chronic risk assessment:

Chlorothalonil:

- o RfD: The Agency approved (1986) reference dose for Chlorothalonil is 0.015 mg/kg body weight/day, based on the NOEL (1.5 mg/kg/day) of a two-year dog study and an uncertainty factor of 100.
- o Carcinogenicity: Classified by HED Peer Review as a Group B2 carcinogen with a Q_1^* of 1.1×10^2 (mg/kg/day).

Hexachlorobenzene:

- o RfD: The Agency approved (1988) reference dose for HCB is 0.0008 mg/kg body weight/day based on the NOEL (0.08 mg/kg/day) of a 130 week rat study and an uncertainty factor of 100.
- o Carcinogenicity: The Carcinogenicity Assessment Group (CAG) has classified HCB as a Group B2 carcinogen with a Q_1^* of 1.7 (mg/kg/day).



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Residue:

Food uses/tolerances from 40 CFR 180.275.

For Chlorothalonil in/on asparagus, CBTS (Donna Davis memo, 5/12/93) has recommended an enforcement level of 0.05 ppm.

For HCB in asparagus, CBTS has estimated a "not likely to exceed level" of 0.003 ppm.

Anticipated residues have been estimated for all Chlorothalonil registered commodities except a few minor crops (D. Edwards memos, 8/10/88 and 8/23/88).

HCB residues were estimated by multiplying Chlorothalonil anticipated residues by 0.5% (D. Edwards memo, 8/23/88).

Percent use estimates:

In 1988, BEAD provided percent crop treated estimates for Chlorothalonil which were used with FDA monitoring data to estimate averaged anticipated residues for Chlorothalonil and HCB.

Chronic exposure/risk estimates:

Chlorothalonil:

Published uses: (TMRC)

Average U.S.:	0.012611 mg/kg/day	(84% RfD)	(1.4 E-4 Car. risk)
NN infants:	0.015674	(104% RfD)	
Chil. 1-6:	0.022415	(149% RfD)	

Asparagus: (TMRC)

Average U.S.:	<0.000001 mg/kg/day	(<1% RfD)	(7.0 E-9 Car. risk)
NN infants:	<0.000001	(<1% RfD)	
Chil. 1-6:	<0.000001	(<1% RfD)	

Published uses: (ARC) (1988 data)

Average U.S.:	0.000074 mg/kg/day	(<1% RfD)	(8.1 E-7 Car. risk)
NN infants:	0.000048	(<1% RfD)	
Chil. 1-6:	0.000100	(1% RfD)	

Hexachlorobenzene:

Published uses: (ARC)

Average U.S.:	<0.000001 mg/kg/day	(<1% RfD)	(6.7 E-7 Car. risk)
NN infants:	<0.000001		
Chil. 1-6:	<0.000001		

HCB: cont.

Asparagus: 0.003 ppm x 100%

All population groups: <0.000001 mg/kg/day (<1% RfD)
(<1.0 E-9 Car. risk)

cc: R. Griffin files, 18 file, RF

CHEMICAL	STUDY TYPE	EFFECTS	REFERENCE DOSES	DATA GAPS/COMMENTS	STATUS
Chloroethalonil Caswell #215B CAS No. 1897-45-6 A.I. CODE: 081901 CFR No. 180.275	2yr feeding- dog NOEL= 1.5000 mg/kg 60.00 ppm LEL= 3.0000 mg/kg 120.00 ppm ONCO: B2 (HED NOTE)	Renal tubular vacuolization. Evidence of oncogenicity in rats and mice (kidney)	PADI UF -->100 OPP RfD= 0.015000 EPA RfD= 0.015000 q*: 0.01100	No data gaps. q* calculated.	HED complete 03/14/86. EPA verified 04/8/86. WHO last reviewed 1990. On IRIS.

FOOD CODE	FOOD NAME	PETITION NUMBER	TOLERANCE (PPM)		PUBLISHED
			NEW	PENDING	
01010AA	CRANBERRIES	2E2939			5.000000
01010JA	CRANBERRIES- JUICE	2E2939			5.000000
05001AA	APRICOTS- FRESH	3F1382			0.500000
05001DA	APRICOTS- DRIED	3F1382			0.500000
05002AA	CHERRIES- FRESH	3F1382			0.500000
05002DA	CHERRIES- DRIED	3F1382			0.500000
05002JA	CHERRIES- JUICE	3F1382			0.500000
05003AA	NECTARINES	3F1382			0.500000
05004AA	PEACHES- FRESH	3F1382			0.500000
05004DA	PEACHES- DRIED	3F1382			0.500000
05005AA	PLUMS(DANSONS)- FRESH	2F2602			0.200000
05005DA	PLUMS- PRUNES(DRIED)	2F2602			0.200000
05005JA	PLUMS, PRUNE- JUICE	2F2602			0.200000
06002AA	BANANAS- UNSPECIFIED	8F2067			0.050000
06002AB	BANANAS- FRESH	8F2067			0.050000
06002DA	BANANAS- DRIED	8F2067			0.050000
06010AA	PAPAYAS- UNSPECIFIED	6E1761			15.000000
06010AB	PAPAYAS- PULP	6E1761			15.000000
06010DA	PAPAYAS- DRIED	6E1761			15.000000
06010JA	PAPAYAS- JUICE	631761			15.000000
06014AA	PASSION FRUIT (GRANADILLA)	5E1569			3.000000
06016AA	PLANTAINS	8F2067			0.050000
07001FA	COCOA BUTTER	2E2744			0.050000
07001SA	CHOCOLATE	2E2744			0.050000
07002AA	COFFEE	2E2744			0.200000
10002AA	CANTALOUPE- UNSPECIFIED	1F1024			5.000000
10002AB	CANTALOUPE- PULP	1F1024			5.000000
10003AA	CASABAS	1F1024			5.000000
10004AA	CRENSHAW	1F1024			5.000000
10005AA	HONEYDEW MELONS	1F1024			5.000000
10007AA	PERSION MELONS	1F1024			5.000000
10008AA	WATERMELON	1F1024			5.000000
10010AA	CUCUMBERS	1F1024			5.000000
10011AA	PUMPKIN	1F1024			5.000000
10013AA	SQUASH- SUMMER	1F1024			5.000000
10014AA	SQUASH- WINTER	1F1024			5.000000
10017AA	BITTER MELON	1F1024			5.000000
10020AA	TOMELGOURD	1F1024			5.000000
11005AA	TOMATOES- WHOLE	1F1024			5.000000
11005JA	TOMATOES- JUICE	1F1024			5.000000