

DATE: May 3, 1979

SUBJECT: Proposed Section 18 exemption for the use of carbaryl on pomegranates at 1 PPM.

FROM: Charles Frick
Toxicology Branch (TS-769) *e. Frick*

TO: Hoyt Jamerson
Room E315, TS-767
Emergency Response Section/RD

THRU: Dr. Adrian Gross, Chief *William D. Butterfield M. Adrian Gross*
Toxicology Branch (TS-769)

Background of action request as per Residue Chemistry Branch review by B.D. Davis, 3/19/79.

The California Dept. of Food & Agriculture is requesting a Section 18 exemption to use the insecticide Sevin (carbaryl) on pomegranates to control the filbertworm.

The formulation to be used is Union Carbide Sevin sprayable. A maximum of 3,500 acres will be treated. Applications will be made from June 1, 1979 to December 31, 1979.

The proposed application rate is 4 lb a.i. per acre in 200-400 gallons of water per acre for ground application or 50-100 gallons for air application. A 30 day PHI will be observed. Based on these limited data, Chemistry Branch concludes that residues of the parent compound in pomegranates are not likely to exceed 1 PPM at the 30 day proposed PHI.

Conclusion

See comments at end of the review.

Toxicology Data Review

This chemical was reviewed by Dr. Reto Engler of the Toxicology Branch on 5/12/77. He summarized the available toxicity data as follows:

Rat Oral LD50	510 mg/kg (390-670)
Rat Teratology	375 mg/kg - no teratological effects
Guinea Pig Teratology	300 mg/kg - no teratological effects/ toxic to mothers.
Dog Teratology	3 mg/kg - no effect/terata at higher levels.
Rhesus Monkey Teratology	20 mg/kg - no terata.
Two-Year Rat Feeding	NEL = 400 ppm (20 mg/kg)
One-Year Dog Feeding	NEL = 400 ppm (10 mg/kg)
18-Month Mouse Oncogenicity	Negative at 400 ppm
18-Month Mouse Oncogenicity	Negative at 14 ppm ("Bionetic Study")

(2)

3-Generation Rat Reproduction
Mrak Report

NEL = 200 mg/kg/day
No oncogenic effects, testing
sufficient.

Dominant Lethal Mutagenicity (Rat)

Negative (200 mg/kg/day)

Comments:

Carbaryl is presently under review within the RPAR program.

Under the existing tolerances 75.36% of the ADI has been utilized for the compound Carbaryl. Under this proposed action request the percent ADI will be increased to 75.37% (see enclosed computer printout). This will not represent a significance increase in exposure.

Toxicology Branch cannot envision any overt hazard associated with the implementation of this action request.

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File last updated 5/1/79

ACCEPTABLE DAILY INTAKE DATA

RAT, Older	NOEL	S.F.	ADI	ADI
mg/kg	ppm		mg/kg/day	mg/day/60kg
10.000	200.00	100	0.1000	6.0000

Published Tolerances

CROP	Tolerance	Food Factor	mg/day/1.5kg
Blackberries (15)	12.000	0.03	0.00540
Boysenberries (17)	12.000	0.03	0.00540
Collards (37)	12.000	0.08	0.01472
Dewberries (52)	12.000	0.03	0.00540
Beet greens (13)	12.000	0.03	0.00540
Kale (75)	12.000	0.03	0.00540
Loganberries (86)	12.000	0.03	0.00540
Mustard Greens (99)	12.000	0.06	0.01104
Parsley (110)	12.000	0.03	0.00540
Raspberries (135)	12.000	0.03	0.00540
Spinach (150)	12.000	0.05	0.00920
Swiss Chard (158)	12.000	0.03	0.00540
Turnip Greens (166)	12.000	0.03	0.00540
Apples (2)	10.000	2.53	0.37950
Apricots (3)	10.000	0.11	0.01686
Asparagus (5)	10.000	0.14	0.02146
Bananas (7)	10.000	1.42	0.21308
Beans (9)	10.000	2.04	0.30600
Blueberries (18)	10.000	0.03	0.00450
Broccoli (19)	10.000	0.10	0.01533
Brussel Sprouts (20)	10.000	0.03	0.00450
Cabbage, sauerkraut (22)	10.000	0.74	0.11037
Carrots (24)	10.000	0.48	0.07205
Cauliflower (27)	10.000	0.07	0.01073
Cherries (30)	10.000	0.10	0.01533
Chinese Cabbage (177)	10.000	0.03	0.00450
Citrus Fruits (33)	10.000	3.81	0.57179
Cranberries (44)	10.000	0.03	0.00450
Cucumbers, inc pickl (46)	10.000	0.73	0.10884
Eggplant (53)	10.000	0.03	0.00450
Escarole/endive (56)	10.000	0.03	0.00450
Grapes, inc raisins (66)	10.000	0.49	0.07358
Kohlrabi (76)	10.000	0.03	0.00450
Lettuce (84)	10.000	1.31	0.19622
Melons (92)	10.000	2.00	0.30046
Nectarines (100)	10.000	0.03	0.00450
Okra (103)	10.000	0.07	0.01073
Olives (104)	10.000	0.06	0.00920
Peaches (114)	10.000	0.90	0.13490
Pears (116)	10.000	0.26	0.03832
Peas (117)	10.000	0.59	0.10424
Peppers (120)	10.000	0.12	0.01840
Plums, inc prunes (125)	10.000	0.13	0.01993
Pumpkin, inc squash (131)	10.000	0.11	0.01686
Salisfy (142)	10.000	0.03	0.00450
Sorghum (147)	10.000	0.03	0.00450

Strawberry (152)	10.000	0.16	0.02759
Summer Squash (155)	10.000	0.03	0.00450
Tomatoes (163)	10.000	2.37	0.43122
Corn, all types (33)	5.000	2.51	0.18825
Cottonseed (41)	5.000	0.15	0.01125
Beets (14)	5.000	0.17	0.01303
Horseradish (77)	5.000	0.03	0.00225
Poultry (128)	5.000	2.94	0.22075
Parsnips (111)	5.000	0.03	0.00225
Peanuts (115)	5.000	0.35	0.02683
Radishes (133)	5.000	0.03	0.00225
Rice (137)	5.000	0.55	0.04139
Rutabagas (139)	5.000	0.03	0.00225
Salisfy (142)	5.000	0.03	0.00225
Soybeans (148)	5.000	0.92	0.06886
Turnips (165)	5.000	0.05	0.00383
Almonds (1)	1.000	0.03	0.00045
Filberts (58)	1.000	0.03	0.00045
Pecans (118)	1.000	0.03	0.00045
Walnuts (167)	1.000	0.03	0.00045
Potatoes (127)	0.200	5.43	0.01628
Eggs (54)	0.500	2.77	0.52078
Sweet Potatoes (157)	0.200	0.40	0.00120
Chestnuts (153)	1.000	0.03	0.00045
Celery (28)	10.000	0.29	0.04292
Maple syrup (201)	0.500	0.03	0.00023

MPI	TMRC	% ADI
6.0000 mg/day/60kg	4.0305 mg/day/1.5kg	67.18

Unpublished, Tox Approved PP 6E1874, 6E1848, 8G1036

CROP	Tolerance	Food Factor	mg/day/1.5kg
Lentils (83)	10.000	0.04	0.00613
Wheat (170)	3.000	10.36	0.46633
Rye (140)	3.000	0.03	0.00135
Oats (102)	3.000	0.36	0.01610
Barley (8)	3.000	0.03	0.00135

MPI	TMRC	% ADI
6.0000 mg/day/60kg	4.5218 mg/day/1.5kg	75.36

Current Action Section 18

CROP	Tolerance	Food Factor	mg/day/1.5kg
Pomegranates (186)	1.000	0.03	0.00045

MPI	TMRC	% ADI
6.0000 mg/day/60kg	4.5222 mg/day/1.5kg	75.37
