APPENDIX A

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixer/Loader												
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a)	cottonwood grown for pulp	4	350	2.9	1.2	4100	58	0.32	1.7	0.024	4.2	0.3
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA),	2	350	2.9	1.2	2000	29	0.64	0.84	0.012	8.3	0.6
	Brussels sprouts, cherries, citrus, pears	1	350	2.9	1.2	1000	15	1.3	0.42	0.006	17	1.2
	pears	0.75	350	2.9	1.2	760	11	1.7	0.32	0.0045	22	1.6
	wheat	0.67	1200	2.9	1.2	2300	33	0.56	0.96	0.014	7.3	0.52
	pecans	0.67	350	2.9	1.2	680	9.7	1.9	0.28	0.004	25	1.8
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	2.9	1.2	1700	25	0.75	0.72	0.01	9.7	0.7

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a) (cont.)	pears, citrus, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	2.9	1.2	510	7.3	2.6	0.21	0.003	33	2.4
	peppers, cherries, pecans	0.33	350	2.9	1.2	330	4.8	3.9	0.14	0.002	51	3.6
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	2.9	1.2	250	3.6	5.2	0.11	0.0015	67	4.8
	peas	0.16	350	2.9	1.2	160	2.3	8	0.067	0.00096	100	7.5
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b)	Cottonwood grown for pulp	4	350	2.9	1.2	4100	58	0.32	1.7	0.024	4.2	0.3
	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	350	2.9	1.2	2000	29	0.64	0.84	0.012	8.3	0.6
	citrus	2	350	2.9	1.2	2000	29	0.64	0.84	0.012	8.3	0.6
	citrus, pears, cherries, Brussels sprouts	1	350	2.9	1.2	1000	15	1.3	0.42	0.006	17	1.2
	pears	0.75	350	2.9	1.2	760	11	1.7	0.32	0.0045	22	1.6
	pecans, wheat	0.67	350	2.9	1.2	680	9.7	1.9	0.28	0.004	25	1.8

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	2.9	1.2	510	7.3	2.6	0.21	0.003	33	2.4
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	2.9	1.2	510	7.3	2.6	0.21	0.003	33	2.4
	cherries, pecans, peppers	0.33	350	2.9	1.2	330	4.8	3.9	0.14	0.002	51	3.6
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	2.9	1.2	250	3.6	5.2	0.11	0.0015	67	4.8
	peas	0.16	350	2.9	1.2	160	2.3	8	0.067	0.00096	100	7.5
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c)	seed farms	2	80	2.9	1.2	460	6.6	2.8	0.19	0.0027	36	2.6
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	2.9	1.2	460	6.6	2.8	0.19	0.0027	36	2.6

Appendix A. Occupational Handler Baseline Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c) (cont.)	Brussels sprouts	1	80	2.9	1.2	230	3.3	5.6	0.096	0.0014	73	5.2
	wheat	0.67	200	2.9	1.2	390	5.6	3.4	0.16	0.0023	44	3.1
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	2.9	1.2	290	4.1	4.5	0.12	0.0017	58	4.2
	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	2.9	1.2	120	1.7	11	0.048	0.00069	150	10
	herbaceous ornamentals	0.5	40	2.9	1.2	58	0.83	23	0.024	0.00034	290	21
	herbaceous ornamentals	0.5	10	2.9	1.2	15	0.21	90	0.006	0.000086	1200	84
	peppers	0.33	80	2.9	1.2	77	1.1	17	0.032	0.00045	220	16
	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	2.9	1.2	58	0.83	23	0.024	0.00034	290	21
	peas	0.16	80	2.9	1.2	37	0.53	35	0.015	0.00022	460	33
Mixing/ Loading Liquids Concentrates for Airblast Applications (1d)	Douglas fir seed orchard in OR and WA	8.3	20	2.9	1.2	480	6.9	2.7	0.2	0.0028	35	2.5

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquids Concentrates for Airblast Applications (1d) (cont.)	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	40	2.9	1.2	230	3.3	5.6	0.096	0.0014	73	5.2
	citrus	2	40	2.9	1.2	230	3.3	5.6	0.096	0.0014	73	5.2
	citrus, pears, cherries	1	40	2.9	1.2	120	1.7	11	0.048	0.00069	150	10
	pears	0.75	40	2.9	1.2	87	1.2	15	0.036	0.00051	190	14
	pecans	0.67	40	2.9	1.2	78	1.1	17	0.032	0.00046	220	16
	citrus, pears	0.5	40	2.9	1.2	58	0.83	23	0.024	0.00034	290	21
	cherries, pecans	0.33	40	2.9	1.2	38	0.55	34	0.016	0.00023	440	32
Mixing/ Loading Wettable Powders for Aerial Applications (2a)	pears	1	350	3.7	43	1300	19	1	15	0.22	0.47	0.32
	pears	0.75	350	3.7	43	970	14	1.3	11	0.16	0.62	0.42
	pears, potatoes	0.5	350	3.7	43	650	9.3	2	7.5	0.11	0.93	0.64
Mixing/ Loading Wettable Powders for Chemigation Applications (2b)	pears	1	350	3.7	43	1300	19	1	15	0.22	0.47	0.32
	pears	0.75	350	3.7	43	970	14	1.3	11	0.16	0.62	0.42
	pears, potatoes	0.5	350	3.7	43	650	9.3	2	7.5	0.11	0.93	0.64

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Wettable Powders for Groundboom Applications (2c)	potatoes	0.5	80	3.7	43	150	2.1	8.8	1.7	0.025	4.1	2.8
Mixing/ Loading Wettable Powders for Airblast Applications (2d)	pears	1	40	3.7	43	150	2.1	8.8	1.7	0.025	4.1	2.8
	pears	0.75	40	3.7	43	110	1.6	12	1.3	0.018	5.4	3.7
	pears,	0.5	40	3.7	43	74	1.1	18	0.86	0.012	8.1	5.6
Mixing/ Loading Wettable Powders to Support Rights-of-way (2e)	Non-crop land adjacent to vineyards	2	10	3.7	43	74	1.1	18	0.86	0.012	8.1	5.6

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applicator												
Applying Sprays via Aerial Equipment (3)	cottonwood grown for pulp	4	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	Brussels sprouts, cherries, citrus, pears	1	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	pears	0.75	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	wheat	0.67	1200	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	pecans	0.67	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data

Appendix A. Occupational Handler Baseline Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Aerial Equipment (3) (cont.)	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	peppers, cherries, pecans	0.33	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	peas	0.16	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
Applying Sprays via Groundboom Equipment (4)	seed farms	2	80	0.014	0.74	2.2	0.032	580	0.12	0.0017	59	54
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	0.014	0.74	2.2	0.032	580	0.12	0.0017	59	54
	Brussels sprouts	1	80	0.014	0.74	1.1	0.016	1200	0.059	0.00085	120	110
	wheat	0.67	200	0.014	0.74	1.9	0.027	700	0.099	0.0014	71	64

Appendix A. Occupational Handler Baseline Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Groundboom Equipment (4) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	0.014	0.74	1.4	0.02	930	0.074	0.0011	95	86
	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	0.014	0.74	0.56	0.008	2300	0.03	0.00042	240	210
	herbaceous ornamentals	0.5	40	0.014	0.74	0.28	0.004	4700	0.015	0.00021	470	430
	herbaceous ornamentals	0.5	10	0.014	0.74	0.07	0.001	19000	0.0037	0.000053	1900	1700
	peppers	0.33	80	0.014	0.74	0.37	0.0053	3500	0.02	0.00028	360	330
	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	0.014	0.74	0.28	0.004	4700	0.015	0.00021	470	430
	peas	0.16	80	0.014	0.74	0.18	0.0026	7300	0.0095	0.00014	740	670
Applying Sprays via Airblast Equipment (5)	Douglas fir seed orchard in OR and WA	8.3	40	0.36	4.5	120	1.7	11	1.5	0.021	4.7	3.3
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	40	0.36	4.5	29	0.41	45	0.36	0.0051	19	14
	citrus	2	40	0.36	4.5	29	0.41	45	0.36	0.0051	19	14

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Airblast Equipment (5) (cont.)	citrus, pears, cherries	1	40	0.36	4.5	14	0.21	91	0.18	0.0026	39	27
	pears	0.75	40	0.36	4.5	11	0.15	120	0.14	0.0019	52	36
	pecans	0.67	40	0.36	4.5	9.6	0.14	140	0.12	0.0017	58	41
	citrus, pears	0.5	40	0.36	4.5	7.2	0.1	180	0.09	0.0013	78	54
	cherries, pecans	0.33	40	0.36	4.5	4.8	0.068	280	0.059	0.00085	120	82
Applying Sprays via Rights of Way Equipment (6)	Non-crop land adjacent to vineyards	2	10	1.3	3.9	26	0.37	50	0.078	0.0011	90	32
Flagger												
Flagging for Aerial Sprays Applications (7)	cottonwood grown for pulp	4	350	0.011	0.35	15	0.22	85	0.49	0.007	14	12
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	0.011	0.35	7.7	0.11	170	0.25	0.0035	29	24
	Brussels sprouts, cherries, citrus, pears	1	350	0.011	0.35	3.9	0.055	340	0.12	0.0018	57	49
	pears	0.75	350	0.011	0.35	2.9	0.041	450	0.092	0.0013	76	65
	pecans, wheat	0.67	350	0.011	0.35	2.6	0.037	510	0.082	0.0012	85	73

Appendix A. Occupational Handler Baseline Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Flagging for Aerial Sprays Applications (7) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	0.011	0.35	1.9	0.028	680	0.061	0.00088	110	98
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.011	0.35	1.9	0.028	680	0.061	0.00088	110	98
	peppers, cherries, pecans	0.33	350	0.011	0.35	1.3	0.018	1000	0.04	0.00058	170	150
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.011	0.35	0.96	0.014	1400	0.031	0.00044	230	200
	peas	0.16	350	0.011	0.35	0.62	0.0088	2100	0.02	0.00028	360	310

Appendix A. Occupational Handler Baseline Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Baseline Dermal[c]			Baseline Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixer/Loader/Applicator												
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (PHED) (8)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	100	30	320	4.6	4.1	0.096	0.0014	73	3.9
		0.06 lb ai/gallon	40 gallons	100	30	240	3.4	5.4	0.072	0.001	97	5.2
		0.01 lb ai/gallon	40 gallons	100	30	40	0.57	33	0.012	0.00017	580	31
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	100	30	10	0.14	130	0.003	0.000043	2300	120
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (ORETF) (9)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	15	2.7	48	0.69	27	0.0086	0.00012	810	26
		0.06 lb ai/gallon	40 gallons	15	2.7	36	0.51	36	0.0065	0.000093	1100	35
		0.01 lb ai/gallon	40 gallons	15	2.7	6	0.086	220	0.0011	0.000015	6500	210
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	15	2.7	1.5	0.021	870	0.00027	0.0000039	26000	840
Mixing/ Loading/ Applying Liquid Concentrates with a High Pressure Handwand (10)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	1000 gallons	No Data	120	No Data	No Data	No Data	9.6	0.14	0.73	No Data
		0.06 lb ai/gallon	1000 gallons	No Data	120	No Data	No Data	No Data	7.2	0.1	0.97	No Data
		0.01 lb ai/gallon	1000 gallons	No Data	120	No Data	No Data	No Data	1.2	0.017	5.8	No Data
	herbaceous ornamentals	0.0025 lb ai/gallon	1000 gallons	No Data	120	No Data	No Data	No Data	0.3	0.0043	23	No Data

a Application rates are the maximum application rates determined from EPA registered labels for dimethoate.

b Amount handled per day values are HED estimates of acres, square feet, or cubic feet treated or gallons applied based on Exposure SAC SOP #9 “Standard Values for Daily Acres Treated in Agriculture,” industry sources, and HED estimates.

c Baseline Dermal: Long-sleeve shirt, long pants, no gloves.

d Baseline Inhalation: no respirator.

APPENDIX B

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Mixer/Loader																
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a)	cottonwood grown for pulp	4	350	0.023	0.017	0.12	0.46	0.34	0.0024	41	55	42	3.8	3.9	21	24
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA),	2	350	0.023	0.017	0.12	0.23	0.17	0.0012	81	110	83	7.6	7.7	41	47
	Brussels sprouts, cherries, citrus, pears	1	350	0.023	0.017	0.12	0.12	0.085	0.0006	160	220	170	15	15	82	95
	pears	0.75	350	0.023	0.017	0.12	0.086	0.064	0.00045	220	290	220	20	21	110	130
	wheat	0.67	1200	0.023	0.017	0.12	0.26	0.2	0.0014	71	96	73	6.6	6.7	36	41
	pecans	0.67	350	0.023	0.017	0.12	0.077	0.057	0.0004	240	330	250	23	23	120	140

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)							Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				SL, g[c]	DL, g[d]	90%R[f]	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	0.023	0.017	0.12	0.2	0.15	0.001	95	130	97	8.8	9	48	55
	pears, citrus, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.023	0.017	0.12	0.058	0.043	0.0003	320	440	330	30	31	160	190
	peppers, cherries, pecans	0.33	350	0.023	0.017	0.12	0.038	0.028	0.0002	490	670	510	46	47	250	290
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.023	0.017	0.12	0.029	0.021	0.00015	650	880	670	60	62	330	380

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a) (cont.)	peas	0.16	350	0.023	0.017	0.12	0.018	0.014	0.000096	1000	1400	1000	94	97	510	590
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b)	Cottonwood grown for pulp	4	350	0.023	0.017	0.12	0.46	0.34	0.0024	41	55	42	3.8	3.9	21	24
	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	350	0.023	0.017	0.12	0.23	0.17	0.0012	81	110	83	7.6	7.7	41	47
	citrus	2	350	0.023	0.017	0.12	0.23	0.17	0.0012	81	110	83	7.6	7.7	41	47
	citrus, pears, cherries, Brussels sprouts	1	350	0.023	0.017	0.12	0.12	0.085	0.0006	160	220	170	15	15	82	95
	pears	0.75	350	0.023	0.017	0.12	0.086	0.064	0.00045	220	290	220	20	21	110	130
	pecans, wheat	0.67	350	0.023	0.017	0.12	0.077	0.057	0.0004	240	330	250	23	23	120	140

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)							Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				SL, g[c]	DL, g[d]	90%R[f]	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	0.023	0.017	0.12	0.058	0.043	0.0003	320	440	330	30	31	160	190
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.023	0.017	0.12	0.058	0.043	0.0003	320	440	330	30	31	160	190
	cherries, pecans, peppers	0.33	350	0.023	0.017	0.12	0.038	0.028	0.0002	490	670	510	46	47	250	290
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.023	0.017	0.12	0.029	0.021	0.00015	650	880	670	60	62	330	380
Mixing/ Loading	peas	0.16	350	0.023	0.017	0.12	0.018	0.014	0.000096	1000	1400	1000	94	97	510	590

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Liquid Concentrates for Chemigation Applications (1b) (cont.)																
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c)	seed farms	2	80	0.023	0.017	0.12	0.053	0.039	0.00027	360	480	360	33	34	180	210
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	0.023	0.017	0.12	0.053	0.039	0.00027	360	480	360	33	34	180	210
	Brussels sprouts	1	80	0.023	0.017	0.12	0.026	0.019	0.00014	710	960	730	66	68	360	410
	wheat	0.67	200	0.023	0.017	0.12	0.044	0.033	0.00023	420	570	440	39	40	210	250
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	0.023	0.017	0.12	0.033	0.024	0.00017	570	770	580	53	54	290	330

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	0.023	0.017	0.12	0.013	0.0097	0.000069	1400	1900	1500	130	140	720	830
	herbaceous ornamentals	0.5	40	0.023	0.017	0.12	0.0066	0.0049	0.000034	2800	3800	2900	260	270	1400	1700
	herbaceous ornamentals	0.5	10	0.023	0.017	0.12	0.0016	0.0012	0.0000086	11000	15000	12000	1100	1100	58006600	
	peppers	0.33	80	0.023	0.017	0.12	0.0087	0.0064	0.000045	2200	2900	2200	200	210	1100	1300
	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	0.023	0.017	0.12	0.0066	0.0049	0.000034	2800	3800	2900	260	270	1400	1700
	peas	0.16	80	0.023	0.017	0.12	0.0042	0.0031	0.000022	4400	6000	4600	410	420	2200	2600
Mixing/ Loading Liquids Concentrates for Airblast Applications (1d)	Douglas fir seed orchard in OR and WA	8.3	20	0.023	0.017	0.12	0.055	0.04	0.00028	340	460	350	32	33	170	200
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than	2	40	0.023	0.017	0.12	0.026	0.019	0.00014	710	960	730	66	68	360410	

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
	Douglas firs in OR and WA															
	citrus	2	40	0.023	0.017	0.12	0.026	0.019	0.00014	710	960	730	66	68	360	410
	citrus, pears, cherries	1	40	0.023	0.017	0.12	0.013	0.0097	0.000069	1400	1900	1500	130	140	720	830
	pears	0.75	40	0.023	0.017	0.12	0.0099	0.0073	0.000051	1900	2600	1900	180	180	960	1100
	pecans	0.67	40	0.023	0.017	0.12	0.0088	0.0065	0.000046	2100	2900	2200	200	200	1100	1200
	citrus, pears	0.5	40	0.023	0.017	0.12	0.0066	0.0049	0.000034	2800	3800	2900	260	270	1400	1700
	cherries, pecans	0.33	40	0.023	0.017	0.12	0.0043	0.0032	0.000023	4300	5800	4400	400	410	2200	2500
Mixing/ Loading Wettable Powders for Aerial Applications (2a)	pears	1	350	0.17	0.13	4.3	0.85	0.65	0.022	22	29	4.7	0.46	0.46	3.8	4
	pears	0.75	350	0.17	0.13	4.3	0.64	0.49	0.016	29	38	6.2	0.61	0.61	5.1	5.3
	pears, potatoes	0.5	350	0.17	0.13	4.3	0.43	0.33	0.011	44	57	9.3	0.91	0.92	7.7	8
Mixing/ Loading Wettable Powders for Chemigation Applications (2b)	pears	1	350	0.17	0.13	4.3	0.85	0.65	0.022	22	29	4.7	0.46	0.46	3.8	4
	pears	0.75	350	0.17	0.13	4.3	0.64	0.49	0.016	29	38	6.2	0.61	0.61	5.1	5.3
	pears, potatoes	0.5	350	0.17	0.13	4.3	0.43	0.33	0.011	44	57	9.3	0.91	0.92	7.7	8
Mixing/ Loading Wettable Powders for Groundboom	potatoes	0.5	80	0.17	0.13	4.3	0.097	0.074	0.0025	190	250	41	4	4	34	35

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks																
Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Applications (2c)																
Mixing/ Loading Wettable Powders for Airblast Applications (2d)	pears	1	40	0.17	0.13	4.3	0.097	0.074	0.0025	190	250	41	4	4	34	35
	pears	0.75	40	0.17	0.13	4.3	0.073	0.056	0.0018	260	340	54	5.3	5.3	45	47
	pears,	0.5	40	0.17	0.13	4.3	0.049	0.037	0.0012	380	500	81	8	8	67	70
Mixing/ Loading Wettable Powders to Support Rights-of-way (2e)	Non-crop land adjacent to vineyards	2	10	0.17	0.13	4.3	0.049	0.037	0.0012	380	500	81	8	8	67	70

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Applicator																
Applying Sprays via Aerial Equipment (3)	cottonwood grown for pulp	4	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	Brussels sprouts, cherries, citrus, pears	1	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	pears	0.75	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	wheat	0.67	1200	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	pecans	0.67	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)							Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				SL, g[c]	DL, g[d]	90%R[f]	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
Applying Sprays via Aerial Equipment (3) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No DataNo Data	
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	peppers, cherries, pecans	0.33	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data
Applying Sprays via	peas	0.16	350	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data	No Data

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Aerial Equipment (3) (cont.)																
Applying Sprays via Groundboom Equipment (4)	seed farms	2	80	0.014	0.011	0.074	0.032	0.025	0.00017	580	740	590	54	55	290	330
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	0.014	0.011	0.074	0.032	0.025	0.00017	580	740	590	54	55	290330	
	Brussels sprouts	1	80	0.014	0.011	0.074	0.016	0.013	0.000085	1200	1500	1200	110	110	590	660
	wheat	0.67	200	0.014	0.011	0.074	0.027	0.021	0.00014	700	890	710	64	65	350	390
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	0.014	0.011	0.074	0.02	0.016	0.00011	930	1200	950	86	88	470	530

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Applying Sprays via Groundboom Equipment (4) (cont.)	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	0.014	0.011	0.074	0.008	0.0063	0.000042	2300	3000	2400	210	220	1200	1300
	herbaceous ornamentals	0.5	40	0.014	0.011	0.074	0.004	0.0031	0.000021	4700	5900	4700	430	440	2300	2600
	herbaceous ornamentals	0.5	10	0.014	0.011	0.074	0.001	0.00079	0.0000053	19000	24000	19000	1700	1800	9400	11000
	peppers	0.33	80	0.014	0.011	0.074	0.0053	0.0041	0.000028	3500	4500	3600	330	330	1800	2000
	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	0.014	0.011	0.074	0.004	0.0031	0.000021	4700	5900	4700	430	440	2300	2600
	peas	0.16	80	0.014	0.011	0.074	0.0026	0.002	0.000014	7300	9300	7400	670	680	3700	4100
Applying Sprays via Airblast Equipment (5)	Douglas fir seed orchard in OR and WA	8.3	40	0.24	0.22 0.17[e]	0.45	1.1	1 0.81[e]	0.0021	16	18 23[e]	47	3.6	3.7 3.9[e]	12	13 15[e]

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Applying Sprays via Airblast Equipment (5) (cont.)	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	40	0.24	0.22 0.17[e]	0.45	0.27	0.25 0.19[e]	0.00051	68	74 96[e]	190	15	15 16[e]	50	54 64[e]
	citrus	2	40	0.24	0.22 0.17[e]	0.45	0.27	0.25 0.19[e]	0.00051	68	74 96[e]	190	15	15 16[e]	50	54 64[e]
	citrus, pears, cherries	1	40	0.24	0.22 0.17[e]	0.45	0.14	0.13 0.097[e]	0.00026	140	150 190[e]	390	30	31 32[e]	100	110 130[e]
	pears	0.75	40	0.24	0.22 0.17[e]	0.45	0.1	0.094 0.073[e]	0.00019	180	200 260[e]	520	40	41 43[e]	130	140
	pecans	0.67	40	0.24	0.22 0.17[e]	0.45	0.092	0.084 0.065[e]	0.00017	200	220 290[e]	580	45	46 48[e]	150	160
	citrus, pears	0.5	40	0.24	0.22 0.17[e]	0.45	0.069	0.063 0.049[e]	0.00013	270	300 380[e]	780	60	62 65[e]	200	210
	cherries, pecans	0.33	40	0.24	0.22 0.17[e]	0.45	0.045	0.041 0.032[e]	0.000085	410	450 580[e]	1200	92	93 98[e]	310	330
Applying Sprays via Rights of Way Equipment (6)	Non-crop land adjacent to vineyards	2	10	0.39	0.29	0.39	0.11	0.083	0.00011	170	230	900	58	64	140	180

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Flagger																
Flagging for Aerial Sprays Applications (7)	cottonwood grown for pulp	4	350	NA	0.01	0.035	No Data	0.2	0.0007	No Data	93	140	No Data	12	No Data	56
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	NA	0.01	0.035	No Data	0.1	0.00035	No Data	190	290	No Data	25	No Data	110
	Brussels sprouts, cherries, citrus, pears	1	350	NA	0.01	0.035	No Data	0.05	0.00018	No Data	370	570	No Data	50	No Data	230
	pears	0.75	350	NA	0.01	0.035	No Data	0.038	0.00013	No Data	500	760	No Data	66	No Data	300
	pecans, wheat	0.67	350	NA	0.01	0.035	No Data	0.034	0.00012	No Data	560	850	No Data	74	No Data	340
Flagging for Aerial Sprays Applications (7) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	NA	0.01	0.035	No Data	0.025	0.000088	No Data	750	1100	No Data	99	No Data	450

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks																
Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	NA	0.01	0.035	No Data	0.025	0.000088	No Data	750	1100	No Data	99	No Data	450
	peppers, cherries, pecans	0.33	350	NA	0.01	0.035	No Data	0.017	0.000058	No Data	1100	1700	No Data	150	No Data	680
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	NA	0.01	0.035	No Data	0.013	0.000044	No Data	1500	2300	No Data	200	No Data	900
Flagging for Aerial Sprays Applications (7) (cont.)	peas	0.16	350	NA	0.01	0.035	No Data	0.008	0.000028	No Data	2300	3600	No Data	310	No Data	1400
Mixer/Loader/Applicator																

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
													Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
				SL, g[c]	DL, g[d]	90%R[f]										
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (PHED) (8)	Woody Ornamentals, Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	0.43	0.37	3	0.02	0.017	0.00014	950	1100	730	68	68	410	440
		0.06 lb ai/gallon	40 gallons	0.43	0.37	3	0.015	0.013	0.0001	1300	1500	970	90	91	550	590
		0.01 lb ai/gallon	40 gallons	0.43	0.37	3	0.0025	0.0021	0.000017	7600	8800	5800	540	550	3300	3500
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	0.43	0.37	3	0.00061	0.00053	0.0000043	30000	35000	23000	2200	2200	13000	14000
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (ORETF) (9)	Woody Ornamentals, Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	0.33	No Data	0.27	0.015	No Data	0.000012	1200	No Data	8100	490	No Data	1100	No Data
		0.06 lb ai/gallon	40 gallons	0.33	No Data	0.27	0.011	No Data	0.0000093	1700	No Data	11000	650	No Data	1400	No Data
		0.01 lb ai/gallon	40 gallons	0.33	No Data	0.27	0.0019	No Data	0.0000015	9900	No Data	65000	3900	No Data	8600	No Data
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	0.33	No Data	0.27	0.00047	No Data	0.00000039	40000	No Data	260000	16000	No Data	34000	No Data

Appendix B. Occupational Handler PPE Dermal, Inhalation, and Combined Exposures and Risks

Exposure Scenario	Crop or Target	App Rate (lb ai/acre)[a]	Area Treated Daily (acres)[b]	PPE Unit Exposures			Dose (mg/kg/day)			MOE			Combined MOEs			
				Dermal (mg/lb ai)		Inhalation (µg/lb ai)							Dermal PPE w/ Baseline Inhalation		Dermal PPE w/ 90% Respirator	
				SL, g[c]	DL, g[d]	90%R[f]	SL, g	DL, g	90%R	SL, g	DL, g	90%R	SL, g	DL, g	SL, g	DL, g
Mixing/ Loading/ Applying Liquid Concentrates with a High Pressure Handwand (only study in PHED is for greenhouse use) (10)	Woody Ornamentals, Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	1000 gallons	2.5	1.6	12	2.9	1.8	0.014	6.5	10	7.3	0.66	0.68	3.4	4.3
		0.06 lb ai/gallon	1000 gallons	2.5	1.6	12	2.1	1.4	0.01	8.7	14	9.7	0.87	0.91	4.6	5.7
		0.01 lb ai/gallon	1000 gallons	2.5	1.6	12	0.36	0.23	0.0017	52	82	58	5.2	5.4	28	34
	herbaceous ornamentals	0.0025 lb ai/gallon	1000 gallons	2.5	1.6	12	0.089	0.057	0.00043	210	330	230	21	22	110	140

a Application rates are the maximum application rates determined from EPA registered labels for dimethoate.
b Amount handled per day values are HED estimates of acres, square feet, or cubic feet treated or gallons applied based on Exposure SAC SOP #9 "Standard Values for Daily Acres Treated in Agriculture," industry sources, and HED estimates.
c SL,g: Single layer with gloves (baseline dermal plus chemical-resistant gloves).
d DL, g: Double layer and gloves (coveralls worn over long-sleeve shirt and long pants plus chemical-resistant gloves).
e For airblast, values also include chemical-resistant headgear in addition to the double layer (coveralls worn over long-sleeve shirt and long pants and chemical-resistant gloves.
f 90%R: assumes a dust/mist removing quarter-face style respirator providing a 90% protection factor is assumed, which is a dust/mist filtering respirator that is a half-face or full-face style respirator (not the quarter-face dust/mist mask).

APPENDIX C

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixer/Loader												
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a)	cottonwood grown for pulp	4	350	0.0086	0.083	12	0.17	110	0.12	0.0017	60	39
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA),	2	350	0.0086	0.083	6	0.086	220	0.058	0.00083	120	77
	Brussels sprouts, cherries, citrus, pears	1	350	0.0086	0.083	3	0.043	430	0.029	0.00042	240	150
	pears	0.75	350	0.0086	0.083	2.3	0.032	580	0.022	0.00031	320	210
	wheat	0.67	1200	0.0086	0.083	6.9	0.099	190	0.067	0.00095	100	67
	pecans	0.67	350	0.0086	0.083	2	0.029	650	0.019	0.00028	360	230

Appendix C. Occupational Handler Engineering Control Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquid Concentrates for Aerial Applications (1a) (cont.)	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	0.0086	0.083	5.2	0.074	250	0.05	0.00071	140	90
	pears, citrus, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.0086	0.083	1.5	0.022	870	0.015	0.00021	480	310
	peppers, cherries, pecans	0.33	350	0.0086	0.083	0.99	0.014	1300	0.0096	0.00014	730	470
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.0086	0.083	0.75	0.011	1700	0.0073	0.0001	960	620
	peas	0.16	350	0.0086	0.083	0.48	0.0069	2700	0.0046	0.00006 6	1500	970
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b)	Cottonwood grown for pulp	4	350	0.0086	0.083	12	0.17	110	0.12	0.0017	60	39

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b) (cont.)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	350	0.0086	0.083	6	0.086	220	0.058	0.00083	120	77
	citrus	2	350	0.0086	0.083	6	0.086	220	0.058	0.00083	120	77
	citrus, pears, cherries, Brussels sprouts	1	350	0.0086	0.083	3	0.043	430	0.029	0.00042	240	150
	pears	0.75	350	0.0086	0.083	2.3	0.032	580	0.022	0.00031	320	210
	pecans, wheat	0.67	350	0.0086	0.083	2	0.029	650	0.019	0.00028	360	230
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	0.0086	0.083	1.5	0.022	870	0.015	0.00021	480	310
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.0086	0.083	1.5	0.022	870	0.015	0.00021	480	310
	cherries, pecans, peppers	0.33	350	0.0086	0.083	0.99	0.014	1300	0.0096	0.00014	730	470

Appendix C. Occupational Handler Engineering Control Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquid Concentrates for Chemigation Applications (1b) (cont.)	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.0086	0.083	0.75	0.011	1700	0.0073	0.0001	960	620
	peas	0.16	350	0.0086	0.083	0.48	0.0069	2700	0.0046	0.000066	1500	970
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c)	seed farms	2	80	0.0086	0.083	1.4	0.02	950	0.013	0.00019	530	340
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	0.0086	0.083	1.4	0.02	950	0.013	0.00019	530	340
	Brussels sprouts	1	80	0.0086	0.083	0.69	0.0098	1900	0.0066	0.000095	1100	680
	wheat	0.67	200	0.0086	0.083	1.2	0.016	1100	0.011	0.00016	630	400
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	0.0086	0.083	0.86	0.012	1500	0.0083	0.00012	840	540
	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	0.0086	0.083	0.34	0.0049	3800	0.0033	0.000047	2100	1400

Appendix C. Occupational Handler Engineering Control Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquids Concentrates for Groundboom Applications (1c) (cont.)	herbaceous ornamentals	0.5	40	0.0086	0.083	0.17	0.0025	7600	0.0017	0.000024	4200	2700
	herbaceous ornamentals	0.5	10	0.0086	0.083	0.043	0.00061	30000	0.00042	0.0000059	17000	11000
	peppers	0.33	80	0.0086	0.083	0.23	0.0032	5800	0.0022	0.000031	3200	2100
Mixing/ Loading Liquids Concentrates for Airblast Applications (1d)	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	0.0086	0.083	0.17	0.0025	7600	0.0017	0.000024	4200	2700
	peas	0.16	80	0.0086	0.083	0.11	0.0016	12000	0.0011	0.000015	6600	4200
	Douglas fir seed orchard in OR and WA	8.3	20	0.0086	0.083	1.4	0.02	920	0.014	0.0002	510	330
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	40	0.0086	0.083	0.69	0.0098	1900	0.0066	0.000095	1100	680
	citrus	2	40	0.0086	0.083	0.69	0.0098	1900	0.0066	0.000095	1100	680
	citrus, pears, cherries	1	40	0.0086	0.083	0.34	0.0049	3800	0.0033	0.000047	2100	1400
	pears	0.75	40	0.0086	0.083	0.26	0.0037	5100	0.0025	0.000036	2800	1800

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Liquids Concentrates for Airblast Applications (1d) (cont.)	pecans	0.67	40	0.0086	0.083	0.23	0.0033	5700	0.0022	0.000032	3100	2000
	citrus, pears	0.5	40	0.0086	0.083	0.17	0.0025	7600	0.0017	0.000024	4200	2700
	cherries, pecans	0.33	40	0.0086	0.083	0.11	0.0016	12000	0.0011	0.000016	6400	4100
Mixing/ Loading Wettable Powders for Aerial Applications (2a)	pears	1	350	0.0098	0.24	3.4	0.049	380	0.084	0.0012	83	68
	pears	0.75	350	0.0098	0.24	2.6	0.037	510	0.063	0.0009	110	91
	pears, potatoes	0.5	350	0.0098	0.24	1.7	0.025	760	0.042	0.0006	170	140
Mixing/ Loading Wettable Powders for Chemigation Applications (2b)	pears	1	350	0.0098	0.24	3.4	0.049	380	0.084	0.0012	83	68
	pears	0.75	350	0.0098	0.24	2.6	0.037	510	0.063	0.0009	110	91
	pears, potatoes	0.5	350	0.0098	0.24	1.7	0.025	760	0.042	0.0006	170	140
Mixing/ Loading Wettable Powders for Groundboom Applications (2c)	potatoes	0.5	80	0.0098	0.24	0.39	0.0056	3300	0.0096	0.00014	730	600

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading Wettable Powders for Airblast Applications (2d)	pears	1	40	0.0098	0.24	0.39	0.0056	3300	0.0096	0.00014	730	600
	pears	0.75	40	0.0098	0.24	0.29	0.0042	4400	0.0072	0.0001	970	800
	pears,	0.5	40	0.0098	0.24	0.2	0.0028	6700	0.0048	0.000069	1500	1200
Mixing/ Loading Wettable Powders to Support Rights-of-way (2e)	Non-crop land adjacent to vineyards	2	10	0.0098	0.24	0.2	0.0028	6700	0.0048	0.000069	1500	1200
Applicator												
Applying Sprays via Aerial Equipment (3)	cottonwood grown for pulp	4	350	0.005	0.068	7	0.1	190	0.095	0.0014	74	53
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	0.005	0.068	3.5	0.05	370	0.048	0.00068	150	110
	Brussels sprouts, cherries, citrus, pears	1	350	0.005	0.068	1.8	0.025	750	0.024	0.00034	290	210
	pears	0.75	350	0.005	0.068	1.3	0.019	1000	0.018	0.00026	390	280
	wheat	0.67	1200	0.005	0.068	4	0.057	330	0.055	0.00078	130	92

Appendix C. Occupational Handler Engineering Control Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Aerial Equipment (3) (cont.)	pecans	0.67	350	0.005	0.068	1.2	0.017	1100	0.016	0.00023	440	310
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	1200	0.005	0.068	3	0.043	440	0.041	0.00058	170	120
	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.005	0.068	0.88	0.013	1500	0.012	0.00017	590	420
	peppers, cherries, pecans	0.33	350	0.005	0.068	0.58	0.0083	2300	0.0079	0.00011	890	640
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.005	0.068	0.44	0.0063	3000	0.006	0.000085	1200	840
	peas	0.16	350	0.005	0.068	0.28	0.004	4700	0.0038	0.000054	1800	1300
Applying Sprays via Groundboom Equipment (4)	seed farms	2	80	0.005	0.043	0.8	0.011	1600	0.0069	0.000098	1000	630

Appendix C. Occupational Handler Engineering Control Exposures and Risks												
Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Groundboom Equipment (4) (cont.)	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	80	0.005	0.043	0.8	0.011	1600	0.0069	0.000098	1000	630
	Brussels sprouts	1	80	0.005	0.043	0.4	0.0057	3300	0.0034	0.000049	2000	1300
	wheat	0.67	200	0.005	0.043	0.67	0.0096	2000	0.0058	0.000082	1200	750
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	200	0.005	0.043	0.5	0.0071	2600	0.0043	0.000061	1600	1000
	asparagus, beans, broccoli, cauliflower, celery, lentils, melons, potatoes, and tomatoes	0.5	80	0.005	0.043	0.2	0.0029	6500	0.0017	0.000025	4100	2500
	herbaceous ornamentals	0.5	40	0.005	0.043	0.1	0.0014	13000	0.00086	0.000012	8100	5000
	herbaceous ornamentals	0.5	10	0.005	0.043	0.025	0.00036	52000	0.00022	0.0000031	33000	20000
	peppers	0.33	80	0.005	0.043	0.13	0.0019	9900	0.0011	0.000016	6200	3800

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Applying Sprays via Groundboom Equipment (4) (cont.)	kale, mustard greens, endive (escarole), leaf lettuce, Swiss chard, and turnips	0.25	80	0.005	0.043	0.1	0.0014	13000	0.00086	0.000012	8100	5000
	peas	0.16	80	0.005	0.043	0.064	0.00091	20000	0.00055	0.0000079	13000	7800
Applying Sprays via Airblast Equipment (5)	Douglas fir seed orchard in OR and WA	8.3	40	0.019	0.45	6.3	0.09	210	0.15	0.0021	47	38
	woody ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	2	40	0.019	0.45	1.5	0.022	860	0.036	0.00051	190	160
	citrus	2	40	0.019	0.45	1.5	0.022	860	0.036	0.00051	190	160
	citrus, pears, cherries	1	40	0.019	0.45	0.76	0.011	1700	0.018	0.00026	390	320
	pears	0.75	40	0.019	0.45	0.57	0.0081	2300	0.014	0.00019	520	420
	pecans	0.67	40	0.019	0.45	0.51	0.0073	2600	0.012	0.00017	580	470
	citrus, pears	0.5	40	0.019	0.45	0.38	0.0054	3400	0.009	0.00013	780	630
	cherries, pecans	0.33	40	0.019	0.45	0.25	0.0036	5200	0.0059	0.000085	1200	960
Applying Sprays via Rights of Way Equipment (6)	Non-crop land adjacent to vineyards	2	10	Not Feasible	Not Feasible	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!	#VALUE!

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Flagger												
Flagging for Aerial Sprays Applications (7)	cottonwood grown for pulp	4	350	0.00022	0.007	0.31	0.0044	4200	0.0098	0.00014	710	610
	citrus, woody ornamentals, Christmas tree farms, and conifer seed orchards (other than douglas firs in OR and WA)	2	350	0.00022	0.007	0.15	0.0022	8500	0.0049	0.00007	1400	1200
	Brussels sprouts, cherries, citrus, pears	1	350	0.00022	0.007	0.077	0.0011	17000	0.0025	0.000035	2900	2400
	pears	0.75	350	0.00022	0.007	0.058	0.00083	23000	0.0018	0.000026	3800	3300
	pecans, wheat	0.67	350	0.00022	0.007	0.052	0.00074	25000	0.0016	0.000023	4300	3600
	alfalfa, alfalfa grown for seed, cotton, field corn, pop corn, grass grown for seed, safflower, sorghum, and soybeans	0.5	350	0.00022	0.007	0.039	0.00055	34000	0.0012	0.000018	5700	4900

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Flagging for Aerial Sprays Applications (7) (cont.)	citrus, pears, asparagus, beans (excluding cowpeas), broccoli, cauliflower, celery, lentils, melons, potatoes, tomatoes, watermelons	0.5	350	0.00022	0.007	0.039	0.00055	34000	0.0012	0.000018	5700	4900
	peppers, cherries, pecans	0.33	350	0.00022	0.007	0.025	0.00036	51000	0.00081	0.000012	8700	7400
	endive, escarole, leaf lettuce, kale, mustard greens, Swiss chard, turnips	0.25	350	0.00022	0.007	0.019	0.00028	68000	0.00061	0.0000088	11000	9800
	peas	0.16	350	0.00022	0.007	0.012	0.00018	110000	0.00039	0.0000056	18000	15000
Mixer/Loader/Applicator												
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (PHED) (8)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.06 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.01 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible

Appendix C. Occupational Handler Engineering Control Exposures and Risks

Exposure Scenario	Crop or Target	Application Rate[a] (lb ai/acre)	Area Treated Daily[b] (acres)	Unit Exposures		Engineering Controls Dermal[c]			Engineering Controls Inhalation[d]			Combined Dermal + Inhalation MOE
				Dermal (mg/lb ai)	Inhalation (µg/lb ai)	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	Exposure (mg/day)	Dose (mg/kg/ day)	MOE	
Mixing/ Loading/ Applying Liquid Concentrates with Low Pressure Handwand (ORETF) (9)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.06 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.01 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
	herbaceous ornamentals	0.0025 lb ai/gallon	40 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
Mixing/ Loading/ Applying Liquid Concentrates with a High Pressure Handwand (10) (only study in PHED is for greenhouse use)	Woody Ornamentals , Christmas tree farms, and conifer seed orchards -- other than Douglas firs in OR and WA	0.08 lb ai/gallon	1000 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.06 lb ai/gallon	1000 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
		0.01 lb ai/gallon	1000 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible
	herbaceous ornamentals	0.0025 lb ai/gallon	1000 gallons	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible	Not Feasible

a Application rates are the maximum application rates determined from EPA registered labels for dimethoate.
b Amount handled per day values are HED estimates of acres, square feet, or cubic feet treated or gallons applied based on Exposure SAC SOP #9 "Standard Values for Daily Acres Treated in Agriculture," industry sources, and HED estimates.
c Eng Controls Dermal: Closed Mixing/ Loading system, enclosed cab, or enclosed cockpit.
d Eng Controls Inhalation: Closed Mixing/ Loading system, enclosed cab, or enclosed cockpit.

APPENDIX D

Appendix D: Sources of Exposure Data Used In The Occupational Dimethoate Handler Exposure And Risk Calculations			
Exposure Scenario (Number)	Data Source	Standard Assumptions (8-hr work day) [a]	Comments[b, c]
Mixer/Loader Descriptors			
Mixing/ Loading Liquid Formulations (1a through 1d)	PHED V1.1	**Aerial:** 1,200 acres for high acreage agricultural crops and 350 acres for all other crops; **Groundboom:** 200 acres for high acreage agricultural crops, 40 acres and 10 acres for herbaceous ornamentals, and 80 acres for all other crops; **Airblast:** 40 acres for agricultural crops and 20 acres for Douglas fir seed orchards	**Baseline:** Dermal, hand, and inhalation = acceptable grades. Hands = 53 replicates; Dermal = 72 to 122 replicates; and Inhalation = 85 replicates. High confidence in hand, dermal, and inhalation data. No protection factor was needed to define the unit exposures. **PPE:** The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hands = acceptable grades. Hands = 59 replicates. High confidence in hand data. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls:** Hands, dermal, and inhalation = acceptable grades. Hands = 31 replicates; Dermal = 16 to 22 replicates; and Inhalation = 27 replicates. High confidence in hand, dermal, and inhalation data. **Gloves were used coupled with engineering controls since empirical data without gloves were not available and back calculation of gloves to a no glove scenario is believed to give erroneously high estimates.**
Mixing/ Loading Wettable Powder Formulations (2a through 2e)	PHED V1.1	**Aerial:** 350 acres for all crops; **Groundboom:** 80 acres for all crops; **Airblast:** 40 acres for all crops; **Rights-of-way:** 10 acres for non cropland	**Baseline:** Dermal, hand, and inhalation = ABC grades. Hands = 7 replicates; Dermal = 22 to 45 replicates, and Inhalation = 44 replicates. Low confidence in the dermal/hands data due to the low number of hand replicates. Medium confidence in inhalation data. No protection factor was needed to define the unit exposure value. **PPE:** Hands = ABC grades. Hands = 24 replicates. The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hands = ABC grades. Hands = 24 replicates. Medium confidence in hand data. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls**: See Wettable Soluble Bag Scenario

Appendix D: Sources of Exposure Data Used In The Occupational Dimethoate Handler Exposure And Risk Calculations			
Exposure Scenario (Number)	Data Source	Standard Assumptions (8-hr work day) [a]	Comments[b, c]
Applying Descriptors			
Applying Sprays via Fixed-wing Aircraft (3)	PHED V1.1	1,200 acres for high acreage agricultural crops and 350 acres for all other crops	**Engineering Controls:** Dermal and hands = AB grade and Inhalation = ABC grade. Dermal = 20 to 28 replicates; Hands = 34 replicates; and Inhalation = 23 replicates. High confidence in dermal and hand data. Medium confidence in inhalation data. No protection factor was needed to define the unit exposure value. **EPA has no data for this scenario, other than enclosed cockpits – the engineering control.**
Applying Sprays via Groundboom Sprayer (4)	PHED V1.1	200 acres for high acreage agricultural crops, 40 acres and 10 acres for herbaceous ornamentals, and 80 acres for all other crops	**Baseline**: Dermal, hand, and inhalation = AB grades. Dermal = 23 to 42 replicates; Hands =29 replicates; and Inhalation = 22 replicates. High confidence in hand, dermal, and inhalation data. No protection factors were needed to define the unit exposure values. **PPE:** The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hands = ABC grades. Hands = 21 replicates. Medium confidence in hand data. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls**: Dermal and Hands = ABC grade. Inhalation = AB grades. Dermal = 20 to 31 replicates; Hands = 16 replicates; and inhalation = 16 replicates. Medium confidence in the hand and dermal data. High confidence in inhalation data. No protection factor needed to define the unit exposure value. Protective gloves not used.

Appendix D: Sources of Exposure Data Used In The Occupational Dimethoate Handler Exposure And Risk Calculations			
Exposure Scenario (Number)	Data Source	Standard Assumptions (8-hr work day) [a]	Comments[b, c]
Applying Sprays via Airblast Sprayer (5)	PHED V1.1	40 acres for agricultural crops	**Baseline:** Dermal, hand, and inhalation = AB grades. Dermal = 32 to 49 replicates; Hands = 22 replicates; and Inhalation = 47 replicates. High confidence in all data. No protection factor was needed to define the unit exposure value. **PPE:** The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hands = AB grades. Hands = 18 replicates. High confidence in hand data. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls:** Dermal and hands = AB grade, and inhalation = ABC grade. Dermal = 20 to 30 replicates; Hands= 20 replicates; and inhalation = 9 replicates. High confidence in hand and dermal data. Low confidence for inhalation data due to low replicate number. **Gloves were used coupled with engineering controls since empirical data without gloves were not available and back calculation of gloves to a no glove scenario is believed to give erroneously high (130µg/lb ai) estimates for a closed cab scenarios.**
Applying Sprays via Rights-of-way Sprayer (6)	PHED V1.1	10 acres for non cropland	PHED exposure data for applying sprays via airblast sprayers (scenario 4) was used as a surrogate for applying sprays via truck mounted ULV sprayer.
Flagging Descriptors			
Flagging for Aerial Spray Applications (7)	PHED V1.1	350 acres for all crops	**Baseline:** Dermal, hands, and inhalation = AB grades. Dermal = 18 to 28 replicates; Hands = 30 replicates; and Inhalation = 28 replicates. High confidence in dermal, hand, and inhalation data. No protection factor was required to calculate unit exposures. **PPE**: The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hand = AB grades. Hands = 6 replicates. Low confidence in hand data due to the small number of replicates. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls**: The same data are used as for baseline coupled with a 98% protection factor to account for the use of an engineering control (e.g., sitting in a vehicle).

Appendix D: Sources of Exposure Data Used In The Occupational Dimethoate Handler Exposure And Risk Calculations			
Exposure Scenario (Number)	Data Source	Standard Assumptions (8-hr work day) [a]	Comments[b, c]
Mixing/ Loading/Applying Descriptors			
Mixing/ Loading/ Applying Emulsifiable Concentrates via Low Pressure Handwand (8)	PHED V1.1	40 gallons for all sites	**Baseline:** Hands = all grades; dermal and inhalation = ABC grades. Dermal = 9 to 80 replicates; Hands = 70 replicates; and Inhalation = 80 replicates. Medium confidence in inhalation data. Low confidence in dermal and hand data. No protection factor was needed to define the unit exposure values. **PPE**: The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hand = 10 replicates. Hands= ABC grades Low confidence in hand data. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls:** Not considered feasible for this exposure scenario.
Mixing/ Loading/ Applying Emulsifiable Concentrates via Low Pressure Handwand (ORETF data) (9)	ORETF Chemical Handler Exposure Studies	40 gallons for all crops	**Baseline:** Dermal, inhalation, and hands = A grade. Dermal, inhalation, and hands = 20 replicates each. High confidence in all data. **PPE and Engineering Controls:** Not required for assessment.
Mixing/ Loading/ Applying Wettable Powders via High Pressure Handwand (10)	PHED V1.1	1000 gallons	**Baseline:** Inhalation = A grades. Inhalation = 13 replicates. Low confidence in inhalation data. **The only empirical hand data available are based on the use of chemical-resistant gloves.** It is generally not appropriate to back-calculate a non-glove hand exposure levels. **PPE**: The same dermal data are used as for baseline coupled with a 50% protection factor to account for an additional layer of clothing. Hands= C grades. Hand = 13 replicates. Low confidence in hand data due to inadequate replicate number. A respirator protection factor of 5 is applied to estimate the use of a quarter-face respirator (dust/mist filtering only). A respirator protection factor of 10 is applied to estimate the use of a half-face negative pressure respirator or a powered air purifying respirator (dust/mist filtering and/or organic vapor-removing). **Engineering Controls:** Not considered feasible for this exposure scenario.

- All Standard Assumptions are based on an 8-hour work day as estimated by the Agency.
- All handler exposure assessments in this document are based on the "Best Available" data as defined by the HED SOP for meeting Subdivision U Guidelines (i.e., completing exposure assessments). Best available grades are assigned to data as follows: matrices with A and B grade data (i.e., Acceptable Grade Data) and a minimum of 15 replicates; if not available, then grades A, B and C data and a minimum of 15 replicates; if not available, then all data regardless of the quality (i.e., All Grade Data) and number of replicates. High quality data with a protection factor take precedence

over low quality data with no protection factor. Generic data confidence categories are assigned as follows:

High = grades A and B and 15 or more replicates per body part

Medium = grades A, B, and C and 15 or more replicates per body part

Low = grades A, B, C, D and E or any combination of grades with less than 15 replicates.

- **PHED grading criteria do not reflect overall quality of the reliability of the assessment. Sources of the exposure factors should also be considered in the risk**

APPENDIX E

Appendix E: Estimated Entry-Restricted Periods for Dimethoate Derived from Actual DFR Data in Apple Study (Revised 05/2005)

Crop/Use	Application Rate	Days After Treatment	Post Application Activity & Transfer Coefficient (TC)[1]	Aggregated Dimethoate + Omethoate DFR (µg/cm^2)[2,3]			Aggregated Dimethoate + Omethoate Dose (mg/kg/day)[4]			Aggregated Dimethoate + Omethoate MOE[5]		
				NY	MI	WA	NY	MI	WA	NY	MI	WA
Cherries	0.33 lb ai/acre	0	TC = 3000	0.759	0.703	0.852	0.260	0.241	0.292	72	77	64
		0.5		0.727	0.527	0.794	0.249	0.181	0.272	75	**100**	69
		2		0.424	0.398	0.658	0.145	0.137	0.226	**130**	140	83
		3		0.480	0.351	0.574	0.165	0.120	0.197	110	150	95
		4		-	-	-	-	-	-	-	-	**110**[6]
		5		0.398	0.287	0.466	0.136	0.098	0.160	140	190	120
		0	TC = 1000	0.759	0.703	0.852	0.087	0.080	0.097	**220**	**230**	**190**
	1.0 lb ai/acre	0	TC = 3000	2.300	2.130	2.581	0.788	0.7303	0.8850	24	26	21
		7		0.793	0.530	1.294	0.272	0.1815	0.4437	69	**100**	42
		10		0.675	0.384	0.889	0.231	0.132	0.305	81	140	61
		13		-	-	-	-	-	-	**100**[6]	-	98
		14		0.478	0.270	0.507	0.164	0.0925	0.1737	110	200	**110**
		0	TC = 1000	2.300	2.130	2.581	0.263	0.243	0.295	71	77	63
		1		2.244	1.572	2.483	0.256	0.180	0.284	73	**100**	66
		2		1.286	1.206	1.993	0.147	0.138	0.228	**130**	140	82
		3		1.455	1.065	1.739	0.166	0.122	0.199	110	150	94
		4		-	-	-	-	-	-	-	-	**110**[6]
		5		1.205	0.869	1.411	0.138	0.099	0.161	140	190	120

Appendix E: Estimated Entry-Restricted Periods for Dimethoate Derived from Actual DFR Data in Apple Study (Revised 05/2005)

Crop/Use	Application Rate	Days After Treatment	Post Application Activity & Transfer Coefficient (TC)[1]	Aggregated Dimethoate + Omethoate DFR (µg/cm^2)[2,3]			Aggregated Dimethoate + Omethoate Dose (mg/kg/day)[4]			Aggregated Dimethoate + Omethoate MOE[5]		
				NY	MI	WA	NY	MI	WA	NY	MI	WA
Citrus	0.5 lb ai/acre	0	TC = 3000	1.150	1.065	1.291	0.394	0.365	0.442	47	51	42
		3		0.727	0.532	0.869	0.249	0.183	0.298	75	**100**	63
		5		0.602	0.435	0.706	0.207	0.149	0.242	90	130	77
		6		-	-	-	-	-	-	**120**[6]	-	-
		7	TC = 3000	0.397	0.265	0.647	0.136	0.091	0.222	140	210	84
		9		-	-	-	-	-	-	-	-	**110**[6]
		10		0.337	0.192	0.444	0.116	0.066	0.152	160	280	120
		0	TC = 1000	1.150	1.065	1.291	0.131	0.122	0.147	140	150	130
	1 lb ai/acre	0	TC = 3000	2.300	2.130	2.581	0.788	0.730	0.885	24	26	21
		7		0.793	0.530	1.294	0.272	0.182	0.444	69	**100**	42
		13		-	-	-	-	-	-	**100**[6]	-	no data
		14		0.478	0.270	0.507	0.164	0.093	0.174	110	200	**110**
		0	TC = 1000	2.300	2.130	2.581	0.263	0.243	0.295	71	77	63
		1		2.244	1.572	2.483	0.256	0.180	0.284	73	**100**	66
		2		1.286	1.206	1.993	0.147	0.138	0.228	**130**	140	82
		3		1.455	1.065	1.739	0.166	0.122	0.199	110	150	94
		4		-	-	-	-	-	-	-	-	**110**[6]
		5		1.205	0.869	1.411	0.138	0.099	0.161	140	190	120

Appendix E: Estimated Entry-Restricted Periods for Dimethoate Derived from Actual DFR Data in Apple Study (Revised 05/2005)

Crop/Use	Application Rate	Days After Treatment	Post Application Activity & Transfer Coefficient (TC)[1]	Aggregated Dimethoate + Omethoate DFR (µg/cm^2)[2,3]			Aggregated Dimethoate + Omethoate Dose (mg/kg/day)[4]			Aggregated Dimethoate + Omethoate MOE[5]		
				NY	MI	WA	NY	MI	WA	NY	MI	WA
Citrus (cont.)	2 lb ai/acre	0	TC = 3000	4.599	4.260	5.162	1.577	1.461	1.770	12	13	11
		14		0.955	0.540	1.013	0.327	0.185	0.347	57	**100**	54
		24		-	-	-	-	-	-	**105**[6]	-	-
		28		0.373	0.060	0.731	0.128	0.021	0.251	150	900	74
		36		-	-	0.443	-	-	0.152	-	-	**120**[6]
		0	TC = 1000	4.599	4.260	5.162	0.526	0.487	0.590	36	38	32
		5		2.410	1.739	2.823	0.275	0.199	0.323	68	94	58
		6		-	-	-	-	-	-	-	**120**[6]	-
		7		1.587	1.059	2.588	0.181	0.121	0.296	**100**	150	63
		11		-	-	-	-	-	-	-	-	**110**[6]
		14		0.955	0.540	1.013	0.109	0.062	0.116	170	300	160
Pears	0.5 lb ai/acre	0	TC = 3000	1.150	1.065	1.291	0.394	0.365	0.442	47	51	42
		3		0.727	0.532	0.869	0.249	0.183	0.298	75	**100**	63
		5		0.602	0.435	0.706	0.207	0.149	0.242	90	130	77
		6		-	-	-	-	-	-	**120**[6]	-	-
		7		0.397	0.265	0.647	0.136	0.091	0.222	140	210	84
		9		-	-	-	-	-	-	-	-	**110**[6]
		10		0.337	0.192	0.444	0.116	0.066	0.152	160	280	120
		0	TC = 1000	1.150	1.065	1.291	0.131	0.122	0.147	**140**	**150**	**130**

Appendix E: Estimated Entry-Restricted Periods for Dimethoate Derived from Actual DFR Data in Apple Study (Revised 05/2005)

Crop/Use	Application Rate	Days After Treatment	Post Application Activity & Transfer Coefficient (TC)[1]	Aggregated Dimethoate + Omethoate DFR (µg/cm^2)[2,3]			Aggregated Dimethoate + Omethoate Dose (mg/kg/day)[4]			Aggregated Dimethoate + Omethoate MOE[5]		
				NY	MI	WA	NY	MI	WA	NY	MI	WA
Pears (cont.)	0.75 lb ai/acre	0	TC = 3000	1.725	1.598	1.936	0.591	0.548	0.664	32	34	28
		5		0.904	0.652	1.059	0.310	0.224	0.363	60	84	51
		6		-	-	-	-	-	-	-	**110**[6]	-
		7		0.595	0.397	0.971	0.204	0.136	0.333	92	140	56
		9		-	-	-	-	-	-	**104**[6]	-	-
		10		0.506	0.288	0.666	0.173	0.099	0.228	110	190	82
		12		-	-	-	-	-	-	-	-	**110**[6]
		14		0.358	0.202	0.380	0.123	0.069	0.130	150	270	140
		0	TC = 1000	1.725	1.598	1.936	0.197	0.183	0.221	95	**100**	84
		2		0.964	0.905	1.495	0.110	0.103	0.171	**170**	180	**110**
	1 lb ai/acre	0	TC = 3000	2.300	2.130	2.581	0.788	0.730	0.885	24	26	21
		7		0.793	0.530	1.294	0.272	0.182	0.444	69	**100**	42
		10		0.675	0.384	0.889	0.231	0.132	0.305	81	140	61
		13		-	-	-	-	-	-	**100**[6]	-	98
		14		0.478	0.270	0.507	0.164	0.093	0.174	110	200	**110**
		0	TC = 1000	2.300	2.130	2.581	0.263	0.243	0.295	71	77	63
		1		2.244	1.572	2.483	0.256	0.180	0.284	73	**100**	66
		2		1.286	1.206	1.993	0.147	0.138	0.228	**130**	140	82
		3		1.455	1.065	1.739	0.166	0.122	0.199	110	150	94
		4		-	-	-	-	-	-	-	-	**110**[6]
		5		1.205	0.869	1.411	0.138	0.099	0.161	140	190	120

Appendix E: Estimated Entry-Restricted Periods for Dimethoate Derived from Actual DFR Data in Apple Study (Revised 05/2005)

Crop/Use	Application Rate	Days After Treatment	Post Application Activity & Transfer Coefficient (TC)[1]	Aggregated Dimethoate + Omethoate DFR (µg/cm^2)[2,3]			Aggregated Dimethoate + Omethoate Dose (mg/kg/day)[4]			Aggregated Dimethoate + Omethoate MOE[5]		
				NY	MI	WA	NY	MI	WA	NY	MI	WA
Pecans	0.33 lb ai/acre	0	TC = 500	0.759	0.703	0.852	0.043	0.040	0.049	**430**	**460**	**380**
	0.67 lb ai/acre	0	TC = 500	1.541	1.427	1.729	0.088	0.082	0.099	**210**	**230**	**190**
Woody ornamentals and Christmas trees	2 lb ai/acre	0	TC = 3000	4.599	4.260	5.162	1.577	1.461	1.770	12	13	11
		14		0.955	0.540	1.013	0.327	0.185	0.347	57	**100**	54
		21		0.764	0.282	0.886	0.262	0.097	0.304	71	190	61
		24		-	-	-	-	-	-	**110**[6]	-	no data
		28		0.373	0.060	0.731	0.128	0.021	0.251	150	900	74