Appendix J. RQs for Assessed Uses of Chlorothalonil

J.1. Aquatic RQs

Tier II, PRZM/EXAMS, Estimated Aquatic Ecological Effects Concentration (EECs) of Chlorothalonil in Standard Ecological Pond for Non-Food Uses

Use	1-in-10-Year EEC			Fish	Invert	Plant	Fish - chronic	Invert. Chronic
	Peak EEC	21-day EEC	60-day EEC	LC50: 10.5	LC50: 3.6	EC50: 6.8	NOAEC: 3	NOAEC: 0.6
Passion Fruit	2.6	2.2	2.1	0.25	0.72	0.38	0.70	3.7
Peanut	7	5.5	5.2	0.67	1.94	1.03	1.7	9.2
Late Green, Shallot, Seed Onions	15	11.7	8.1	1.4	4.2	2.21	2.7	19.5
Early Green, Shallot, Seed Onions	19.6	15.2	10.9	1.9	5.4	2.88	3.6	25.3
Conifers	18.8	16	12	1.8	5.2	2.76	4.0	26.7
Potatoes	19.5	16.8	13.8	1.9	5.4	2.87	4.6	28.0
Early Dry Beans	21.1	17.5	13	2.0	5.9	3.10	4.3	29.2
Corn	21.5	17.9	12.6	2.0	6.0	3.16	4.2	29.8
Blueberry	23.9	19.4	14.4	2.3	6.6	3.51	4.8	32.3
Late Dry Beans	25.6	20	13.1	2.4	7.1	3.76	4.4	33.3
Grass Grown for Seed or Hay	29.5	21.5	12.4	2.8	8.2	4.34	4.1	35.8
Cucurbit	27.8	23.2	17.9	2.6	7.7	4.09	6.0	38.7
Filberts, Almonds, Pistachios	29	23.6	17.5	2.8	8.1	4.26	5.8	39.3
Asparagus	28.8	23.8	18	2.7	8.0	4.24	6.0	39.7
Bulb Onions	32.5	25.2	19.4	3.1	9.0	4.78	6.5	42.0
Stone Fruit and Cherries	31	25.5	20.4	3.0	8.6	4.56	6.8	42.5
Early Snap Beans	31.7	26.2	19.5	3.0	8.8	4.66	6.5	43.7
Early Carrots	31	26.2	23.4	3.0	8.6	4.56	7.8	43.7
Late Snap Beans	38.5	30	23.3	3.7	10.7	5.66	7.8	50.0
Garlic	35.4	31.7	25.8	3.4	9.8	5.21	8.6	52.8
Tomatoes	46.7	33.9	27.9	4.4	13.0	6.87	9.3	56.5
Late Cole Crops	52.8	41.7	30.2	5.0	14.7	7.76	10.1	69.5
Early Celery	63.3	51.6	42	6.0	17.6	9.31	14.0	86.0
Late Carrots	65.1	53	43	6.2	18.1	9.57	14.3	88.3
Early Cole Crops	63.6	53.1	41.7	6.1	17.7	9.35	13.9	88.5
Late Celery	68.7	54.5	41.4	6.5	19.1	10.10	13.8	90.8
Roses	108	83.3	53.3	10.3	30.0	15.88	17.8	138.8
General Turf	115	90.2	61.6	11.0	31.9	16.91	20.5	150.3

Pachysandra	121	96.7	66.6	11.5	33.6	17.79	22.2	161.2
Ornamentals	139	114	72.7	13.2	38.6	20.44	24.2	190.0
Sod Farms	274	260	146	26.1	76.1	40.29	48.7	433.3
Total Golf Course Turf (adjusted) [1]	279	262	148	26.6	77.5	41.03	49.3	436.7

J.2. Terrestrial RQs – Birds

Use Site	Application Rate (lbs a.i./A)	Minimum Application Interval (Days)	Total Seasonal Load	Small insect EEC (ppm)	Chlorothalonil Chronic RQ (NOAEC = 153 ppm)	SDS-3701 EEC (40% conversion)	SDS-3701 Acute RQ (LD50: 82 mg/kg)[a]	SDS-3701 Chronic RQ (NOAEC: 100 ppm)
Peanut	1.125	14	9	278	1.8	111.2	1.5	1.1
Grass grown for seed	1.5	14	4.5	336	2.2	134.4	1.9	1.3
Passionfruit	1.5	14	7.5	364	2.4	145.6	2.0	1.5
Roses	1.1	7	36.4 (max applies to field grown only)	456	3.0	182.4	2.5	1.8
Dry beans	1.5	7	6	493	3.2	197.2	2.7	2.0
Potato	1.125	5	11.25	582	3.8	232.8	3.2	2.3
Cole crops	1.5	7	12	595	3.9	238.0	3.3	2.4
Carrots	1.5	7	15	609	4.0	243.6	3.4	2.4
Ornamentals	1.55	7	36.4 (max applies to field grown only)	642	4.2	256.8	3.6	2.6
Green onions, leek, shallot, onion grown for seed	2.25	7	6.7	646	4.2	258.4	3.6	2.6
Filberts	3	14	9	673	4.4	269.2	3.7	2.7
Snap beans	2.25	7	9	740	4.8	296.0	4.1	3.0
Blueberry	3	10	9	767	5.0	306.8	4.3	3.1
Tomato	2.16	7	15.1	838	5.5	335.2	4.7	3.4
Onion (dry bulb)	2.25	7	15	873	5.7	349.2	4.9	3.5
Garlic	2.25	7	15	873	5.7	349.2	4.9	3.5
Celery	2.25	7	18	892	5.8	356.8	5.0	3.6
Stone fruits including cherries	3.1	10	15.5	913	6.0	365.2	5.1	3.7
Pachysandra	3.1	7	36.4 (max applies to field grown only)	1273	8.3	509.2	7.1	5.1
Conifers	4.1	7 to 21	15.75	1348	8.8	539.2	7.5	5.4

	1 application at 11.3 lbs a.i./Acre + 1 applications at 7.2 lbs a.i./Acre	7	18.5	2000	13.1	800.0	11.1	8.0
	2 apps at 11.3 lbs a../Acre + 7 apps at 7.2 lbs a.i./acre	7	73	3000	19.6	1200.0	16.7	12.0
Golf courses	5 apps at 7.2 lbs a.i./acre	7	36	2578	16.8	1031.2	14.3	10.3

a Dose based EEC for birds assumes that a small bird consumes 114% of its diet daily as described in the T-REX documentation available at http://www.epa.gov/oppefed1/models/terrestrial/trex_usersguide.htm

J.3. Terrestrial Invertebrate RQs

Use	Application Rate (lbs a.i./A)	Minimum Application Interval (Days)	Total Seasonal Load	small insect EEC	Small Insect RQ (LD50: 1400 ppm)	Large Insect EEC	Large Insect RQ
Peanut	1.125	14	9	278	0.2	31	0.02
Grass grown for seed	1.5	14	4.5	336	0.2	37	0.03
Passionfruit	1.5	14	7.5	364	0.3	40	0.03
Roses	1.1	7	36.4 (max applies to field grown only)	456	0.3	51	0.04
Dry beans	1.5	7	6	493	0.4	55	0.04
Potato	1.125	5	11.25	582	0.4	65	0.05
Cole crops	1.5	7	12	595	0.4	66	0.05
Carrots	1.5	7	15	609	0.4	68	0.05
Ornamentals	1.55	7	36.4 (max applies to field grown only)	642	0.5	71	0.05
Green onions, leek, shallot, onion grown for seed	2.25	7	6.7	646	0.5	72	0.05
Filberts	3	14	9	673	0.5	75	0.05
Snap beans	2.25	7	9	740	0.5	82	0.06
Blueberry	3	10	9	767	0.5	85	0.06
Tomato	2.16	7	15.1	838	0.6	93	0.07
Onion (dry bulb)	2.25	7	15	873	0.6	97	0.07
Garlic	2.25	7	15	873	0.6	97	0.07
Celery	2.25	7	18	892	0.6	99	0.07
Stone fruits including cherries	3.1	10	15.5	913	0.7	101	0.07
Pachysandra	3.1	7	36.4 (max applies to field grown only)	1273	0.9	141	0.10
Conifers	4.1	7 to 21	15.75	1348	1.0	150	0.11

	1 application at 11.3 lbs a.i./Acre + 1 applications at 7.2 lbs a.i./Acre	7	18.5	2000	1.4	220	0.16
	2 apps at 11.3 lbs a../Acre + 7 apps at 7.2 lbs a.i./acre	7	73	3000	2.1	328	0.23
Golf courses	5 apps at 7.2 lbs a.i./acre	7	36	2578	1.8	286	0.20

J.4. Mammalian RQs

Use	Application Rate (lbs a.i./A)	Minimum Application Interval (Days)	Total Seasonal Load (lbs a.i./Acre)	Short Grass EEC (ppm)	Short Grass EEC (mg/kg-bw)	RQ based on Adjusted NOAEL of 253 mg/kg-bw)	SDS-3701 Dose (mg/kg-bw; 40% conversion)	SDS-3701 RQ (40% Conversion and Adjusted NOAEL of 13.7 mg/kg-bw)
Peanut	1.125	14	9	494.00	469.30	1.85	187.72	13.70
Grass grown for seed	1.5	14	4.5	598.00	568.10	2.25	227.24	16.59
Passionfruit	1.5	14	7.5	647.00	614.65	2.43	245.86	17.95
Roses	1.1	7	36.4 (max applies to field grown only)	810.00	769.50	3.04	307.80	22.47
Dry beans	1.5	7	6	876.00	832.20	3.29	332.88	24.30
Potato	1.125	5	11.25	1034.00	982.30	3.88	392.92	28.68
Cole crops	1.5	7	12	1057.00	1004.15	3.97	401.66	29.32
Carrots	1.5	7	15	1083.00	1028.85	4.07	411.54	30.04
Ornamentals	1.55	7	36.4 (max applies to field grown only)	1141.00	1083.95	4.28	433.58	31.65
Green onions, leek, shallot, onion grown for seed	2.25	7	6.7	1149.00	1091.55	4.31	436.62	31.87
Filberts	3	14	9	1196.00	1136.20	4.49	454.48	33.17
Snap beans	2.25	7	9	1315.00	1249.25	4.94	499.70	36.47
Blueberry	3	10	9	1363.00	1294.85	5.12	517.94	37.81
Tomato	2.16	7	15.1	1490.00	1415.50	5.59	566.20	41.33
Onion (dry bulb)	2.25	7	15	1552.00	1474.40	5.83	589.76	43.05
Garlic	2.25	7	15	1552.00	1474.40	5.83	589.76	43.05
Celery	2.25	7	18	1586.00	1506.70	5.96	602.68	43.99
Stone fruits including cherries	3.1	10	15.5	1624.00	1542.80	6.10	617.12	45.05
Pachysandra	3.1	7	36.4 (max applies to field grown only)	2262.00	2148.90	8.49	859.56	62.74
Conifers	4.1	7 to 21	15.75	2396.00	2276.20	9.00	910.48	66.46

	1 application at 11.3 lbs a.i./Acre + 1 applications at 7.2 lbs a.i./Acre	7	18.5	3540.00	3363.00	13.29	1345.20	98.19
	2 apps at 11.3 lbs a../Acre + 7 apps at 7.2 lbs a.i./acre	7	73	5200.00	4940.00	19.53	1976.00	144.23
Golf courses	5 apps at 7.2 lbs a.i./acre	7	36	4583.00	4353.85	17.21	1741.54	127.12

J.5. Bird RQs from Consumption of Contaminated Aquatic Animals

Use	Application Rate (lbs a.i./A)	Minimum Application Interval (Days)	Total Seasonal Load	Aquatic animal EEC (ppm)	Aquatic Animal Chronic RQ
Passionfruit	1.5	14	7.5	6	0.04
Peanut	1.125	14	9	15	0.10
Green onions, leek, shallot, onion grown for seed	2.25	7	6.7	41	0.27
Conifers	4.1	7 to 21	15.75	43	0.28
Potato	1.125	5	11.25	45	0.29
Blueberry	3	10	9	52	0.34
Dry beans	1.5	7	6	54	0.35
Grass grown for seed	1.5	14	4.5	58	0.38
Filberts	3	14	9	64	0.42
Garlic	2.25	7	15	86	0.56
Stone fruits including cherries	3.1	10	15.5	69	0.45
Snap beans	2.25	7	9	81	0.53
Onion (dry bulb)	2.25	7	15	86	0.56
Tomato	2.16	7	15.1	92	0.60
Cole crops	1.5	7	12	143	0.93
Carrots	1.5	7	15	143	0.93
Celery	2.25	7	18	147	0.96
Roses	1.1	7	36.4 (max applies to field grown only)	225	1.47
Pachysandra	3.1	7	36.4 (max applies to field grown only)	261	1.71
Ornamentals	1.55	7	36.4 (max applies to field grown only)	308	2.01

	1 application at 11.3 lbs a.i./Acre + 1 applications at 7.2 lbs a.i./Acre	7	18.5		
	2 apps at 11.3 lbs a../Acre + 7 apps at 7.2 lbs a.i./acre	7	73	707	4.62
Golf courses	5 apps at 7.2 lbs a.i./acre	7	36		