

Appendix J. Ecological Effects Data (Propanil)

Habitat	Taxa	Effect Type	Endpoint	Value	Unit	Toxicity category	Study Classification	MRID or Acc. #
Aquatic	African Clawed Frogs (<i>Xenopus laevis</i>)	Acute	48h LC ₅₀	8130	µg/L	Moderately Toxic	Supplemental	ECOTOX 19808
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	2300	µg/L	Moderately Toxic	Acceptable	Acc. 246087
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	12.8	mg/L	Slightly Toxic	Acceptable	41360201
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	48h LC50	6.9	mg/L	Moderately Toxic	Supplemental	00036098 & Acc. 095187
Aquatic	Freshwater fish Bluegill Sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	5.4	mg/L	Moderately Toxic	Acceptable	Acc. 249347
Aquatic	Freshwater fish Bluegill Sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	< 3.7	mg/L	Moderately Toxic	Supplemental	40098001
Aquatic	Freshwater fish Bluegill Sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	14.0	mg/L	Slightly Toxic	Acceptable	41359801
Aquatic	Freshwater fish Bluegill Sunfish (<i>Lepomis macrochirus</i>)	Acute	48h LC50	16.0	mg/L	Slightly Toxic	Supplemental	00107147
Aquatic	Freshwater fish Brown bullhead (<i>Ictalurus nebulosus</i>)	Acute	48h LC50	22.1	mg/L	Slightly Toxic	Supplemental	00036097 & Acc. 095187
Aquatic	Freshwater fish Emerald shiner (<i>Notropis atherinoides</i>)	Acute	96h LC50	7.5	mg/L	Moderately Toxic	Supplemental	00036096 & Acc. 095187
Aquatic	Freshwater fish Goldfish (<i>Carassius auratus</i>)	Acute	48h LC50	22.4	mg/L	Slightly Toxic	Supplemental	00036097 & Acc. 095187

Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	1200	µg/L	Moderately Toxic	Acceptable	41776801
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	6.7	mg/L	Moderately Toxic	Acceptable	00124277 & Acc. 249347
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia pulex</i>)	Acute	48h EC50	11.4	mg/L	Slightly Toxic	Supplemental	00036099 & Acc. 095187
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	LC50	11.4	mg/L	Slightly Toxic	Acceptable	Acc. 095187
Aquatic	Freshwater invertebrate Scud (<i>Gammarus fasciatus</i>)	Acute	96h LC50	16	mg/L	Slightly Toxic	Supplemental	40098001 & 05001497
Aquatic	Freshwater fish Fathead Minnows (<i>Pimephales promelas</i>)	Chronic	NOAEC	9.1	µg/L	Length	Acceptable	42475301
			NOAEC	9.3	µg/L	Survival	Acceptable	41776501 & 42259601
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Chronic	NOAEC	86	µg/L	Reproduction	Acceptable	41776001
Aquatic	Marine/Estuarine fish Sheepshead Minnow (<i>Cyprinodon variegatus</i>)	Acute	96h LC50	4.6	mg/L	Moderately Toxic	Acceptable	41776001
Aquatic	Marine/Estuarine invertebrates Eastern Oyster (<i>Crassostrea virginica</i>)	Acute	96h EC50	4.96	mg/L	Moderately Toxic	Acceptable	41777101 & 42253100
Aquatic	Marine/Estuarine invertebrates Mysid Shrimp (<i>Americamysis bahia</i>)	Acute	96h LC50	0.4	mg/L	Highly Toxic	Acceptable	41776901
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	110	µg/L	parameter: # of fronds	Supplemental	41777201
Aquatic plants	Non-vascular aquatic plant Green Algae (<i>Selenastrum capricornutum</i>)	Acute	5d EC50	29	µg/L	parameter: Total cell density	Acceptable	41777301

Aquatic plants	Non-vascular aquatic plant Freshwater Diatom (<i>Navicula pelliculosa</i>)	Acute	EC50	16	µg/L	parameter: Total cell density	Acceptable	41777501
Aquatic plants	Non-vascular aquatic plant Marine Diatom (<i>Skeletonema costatum</i>)	Acute	EC50	30	µg/L	parameter: Total cell density	Acceptable	41777301 & 41777401
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabeana flos-aquae</i>)	Acute	EC50	110	µg/L	parameter: Total cell density	Supplemental	41776701
Terrestrial	Avian Northern Bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	14d LD50	201	mg/kg-bw	Moderately Toxic	Acceptable	41361001
Terrestrial	Avian Northern Bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	2311	ppm	Slightly Toxic	Acceptable	Acc. 246413
Terrestrial	Avian Northern Bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	2861	ppm	Slightly Toxic	Acceptable	41361101
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	> 5000	ppm	Practically Non-Toxic	Acceptable	00084820
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	5627	ppm	Practically Non-Toxic	Acceptable	41360701
Terrestrial	Rodent Rat (<i>Rattus norvegicus</i>)	Acute oral	LD50	1080	mg/kg-bw	Slightly Toxic (Mortality)	Acceptable (HED)	41360801
Terrestrial	Rodent Rat (<i>Rattus norvegicus</i>)	Chronic	NOAEL	150	ppm	2-generation Reproduction	Acceptable (HED)	44604301
Terrestrial	Honeybee (<i>Apis mellifera</i>)	Acute	LD50	>24.17 (>188.83)	µg/bee (ppm)	Practically Non-Toxic	Acceptable	00009181
Terrestrial plants	Terrestrial dicot Lettuce (<i>Lactuca sativa</i>) (seedling emergence)	Acute	EC25	0.53	lb ai/A	parameter: shoot length	Acceptable	43069901

Terrestrial plants	Terrestrial dicot Cabbage (<i>Brassica oleracea</i>) (seedling emergence)	Acute	EC25	0.72	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial dicot Cucumber (<i>Cucumis sativus</i>) (seedling emergence)	Acute	EC25	4.9	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (seedling emergence)	Acute	EC25	1.5	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial dicot Soybean (<i>Glycine max</i>) (seedling emergence)	Acute	EC25	1.1	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (seedling emergence)	Acute	EC25	3.8	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial monocot Onion (<i>Allium cepa</i>) (seedling emergence)	Acute	EC25	1.4	lb ai/A	parameter: shoot length	Acceptable	43069901
Terrestrial plants	Terrestrial monocot Corn (<i>Zea mays</i>) (seedling emergence)	Acute	EC25	> 5.2	lb ai/A	parameter: emergence, length	Acceptable	43069901
Terrestrial plants	Terrestrial monocot Oat (<i>Avena sativa</i>) (seedling emergence)	Acute	EC25	> 5.2	lb ai/A	parameter: emergence, length	Acceptable	43069901
Terrestrial plants	Terrestrial monocot Rye grass (<i>Lolium perenne</i>) (seedling emergence)	Acute	EC25	0.77	lb ai/A	parameter: shoot length	Acceptable	43069901

Terrestrial plants	Terrestrial monocot Oat (<i>Avena sativa</i>) (vegetative vigor)	Acute	EC25	0.75	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial monocot Onion (<i>Allium cepa</i>) (vegetative vigor)	Acute	EC25	0.13	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial monocot Rice (<i>Oryza sativa</i>) (vegetative vigor)	Acute	EC25	12	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial monocot Rye grass (<i>Lolium perenne</i>) (vegetative vigor)	Acute	EC25	7.5	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial dicot Cabbage (<i>Brassica oleracea</i>) (vegetative vigor)	Acute	EC25	0.088	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial dicot Carrot (<i>Daucus carota</i>) (vegetative vigor)	Acute	EC25	0.094	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial dicot Cotton (<i>Gossypium hirsutum</i>) (vegetative vigor)	Acute	EC25	1.2	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial dicot Cucumber (<i>Cucumis sativus</i>) (vegetative vigor)	Acute	EC25	1.6	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
Terrestrial plants	Terrestrial dicot Oil seed Rape (<i>Brassica napus</i>) (vegetative vigor)	Acute	EC25	0.39	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702

Terrestrial plants	Terrestrial dicot Pea (<i>Pisum sativum</i>) (vegetative vigor)	Acute	EC25	0.17	lb ai/A	parameter: foliar fresh weight	Acceptable	47144702
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Assessment Endpoint	Species	Propanil (parent)	3,4-DCA* (expressed as parent)
Acute Freshwater Fish	Rainbow Trout (<i>Oncorhynchus mykiss</i>)	96-h LC ₅₀ = 2,300 ppb Acc. 246087	ND
Chronic Freshwater Fish	Fathead Minnows (<i>Pimephales promelas</i>)	NOAEC = 9.1 ppb 42475301	Not Scientifically Valid
Acute Freshwater Invertebrate	Water Flea (<i>Daphnia magna</i>)	48-h EC ₅₀ = 528 ppb 41776801	48-h EC ₅₀ = 34.9 ppb (47.0 ppb) E55961
Chronic Freshwater Invertebrate	Water Flea (<i>Daphnia magna</i>)	28-d NOAEC = 86 ppb 41776601	21-d NOAEC = 10 ppb (13 ppb) E102280