

Appendix A. Ecological Effects Data

Comparison of Toxicity of Organisms to different forms of Triclopyr in terms of the acid equivalent (TEA, BEE, & degradate TCP)

Taxa	Effect Type	Endpoint	Triclopyr Acid - TGAi	TEA (ae)	BEE (ae)	TCP (ae)
Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	117 mg/L	79.2 mg/L	0.47 mg/L	1.9 mg/L
Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	148 mg/L	155.4 mg/L	0.26 mg/L	16.1 mg/L
Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Chronic	NOEC LOEC	No Data	> 32.2 mg/L < 50.2 mg/L	No Data	No Data
Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Chronic	NOEC LOEC	No Data	No Data	0.019 mg/L 0.034 mg/L	No Data
Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	132.9 mg/L	346 mg/L	0.25 mg/L	13.4 mg/L
Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Chronic	NOEC LOEC	No Data	25 mg/L 46.2mg/L	No Data	No Data
Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	No Data	6.1 mg/L	0.86 mg/L	Invalid study
Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricortum</i>)	Acute	5d EC50	29.8 mg/L	12.1 mg/L	2.5 mg/L	2.3 mg/L
Non-vascular aquatic plant Blue-green algae (<i>Anabeana flos-aquae</i>)	Acute	5d EC50	No Data	(7d EC50) 4.1 mg/L	1.42 mg/L	2.3 mg/L
Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Acute	5d EC50	No Data	(4d EC50) 10.6 mg/L	0.07 mg/L	No Data
Avian Mallard duck (<i>Anas platyrhynchos</i>)	Acute oral	LD50	1698 mg/kg bw	(14d LC50) 1418 mg/kg bw	No Data	No Data

Taxa	Effect Type	Endpoint	Triclopyr Acid	TEA (ae)	BEE (ae)	TCP (ae)
Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	21d LD50	No Data	No Data	529 mg/kg bw	(8d LD50) > 2585 mg/kg bw
Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	2934 ppm	5,189 ppm	3385 ppm	No Data
Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	No Data	> 4,464.8 ppm	> 3885	> 7265 ppm
Avian Mallard duck (<i>Anas platyrhynchos</i>)	Chronic	NOAEC LOAEC	100 ppm 200 ppm # of 14 d old survivors	No Data	No Data	No Data
Rodent Rat	Acute oral	LD50	630 (F) mg/kg	572 (M & F) mg/kg	578 (M & F) mg/kg	1026 (M) mg/kg
Rodent Rat	Chronic	NOAEL LOAEL	5 mg/kg bw 25 mg/kg bw	No Data	No Data	No Data
Honeybee (<i>Apis mellifera</i>)	Acute	Contact 48h LD50	>100 µg/bee	No Data	> 72 µg/bee	No Data
Terrestrial dicot Sunflower (<i>Helianthus annuus</i>) (Vegetative Vigor)	Acute	14d EC25	No Data	0.005 lbs ae/A Parameter: shoot length	0.006 lbs ae/ A Parameter: shoot weight	No Data
Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	14d EC25	No Data	0.114 lbs ae/A Parameter: shoot weight	0.063 lbs ae/A Parameter: shoot weight	No Data
Terrestrial dicot Alfalfa (<i>Medicago sativa</i>) (Seedling Emergence)	Acute	51d EC25	No Data	No Data	0.045 lbs ae/A parameter: emergence	No Data
Terrestrial dicot Soybean (<i>Glycine max</i>) (Seedling Emergence)	Acute	14d EC25	No Data	> 0.23 lbs ae/A Parameter: shoot length	< 8.0 lbs ae/A Parameter: emergence	No Data
Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	51d EC25	No Data	> 0.69 lbs as/A Parameter: shoot length	0.053 lbs ae/A Parameter: shoot weight	No Data

Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	14d EC25	No Data	> 0.23 lbs ae/A Parameter: shoot length	< 8.0 lbs ae/A Parameter: emergence	No Data
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Triclopyr Acid (colored cells are most sensitive for triclopyr acid)

Habitat	Taxa	Effect Type	Endpoint	Value	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	117	mg/L	Practically Non-Toxic	Acceptable	00049637 Dow Chemical 1973
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	148	mg/L	Practically Non-Toxic	Acceptable	00049637 Dow Chemical 1973
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	132.9	mg/L	Practically Non-Toxic	Acceptable	40346504 McCarty 1977
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricortum</i>)	Acute	5d EC50	29.8	mg/L	Parameter?	Supplemental	41736303 Cowgill 1989
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Acute oral	LD50	1698	mg/kg bw	Slightly Toxic	Acceptable	40346401 Dow Chemical 1976
Terrestrial	Avian Cortunix Quail	Subacute dietary	LC50	3272	ppm	Slightly Toxic	Supplemental	00049638 Dow Chemical 1973
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	LC50	2934	ppm	Slightly Toxic	Acceptable	40346403 Dow Chemical 1976
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	LC50	5620	ppm	Practically Non-Toxic	Acceptable	0031249 Wildlife Int'l 1979
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Chronic	NOAEC LOAEC LOAEC	500 >500 200	ppm ppm ppm	N/A	Acceptable	00031251 Beavers 1979
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Chronic	NOAEC LOAEC	100 200	ppm	# of 14 d old survivors	Acceptable	00031250 Beavers 1979

Habitat	Taxa	Effect Type	Endpoint	Value	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial	Rodent Rat	Acute oral	LD50	729 (M) 630 (F) (F 95% CI 450-829)	mg/kg mg/kg mg/kg	Slightly Toxic	Acceptable (HED 2002)	00031940 Henck et al. 1979
Terrestrial	Rodent	Chronic	NOAEL	25	mg/kg bw	Reproductive/ Systemic	Acceptable (RED 1998)	43545701 Vedula et al. 1995
Terrestrial	Rodent	Chronic	LOAEL	250	mg/kg bw			
Terrestrial	Rodent	Chronic	NOAEL	5	mg/kg bw	Reproductive/ Offspring	Acceptable (HED 2002)	43545701 Vedula et al. 1995
Terrestrial	Honeybee (<i>Apis mellifera</i>)	Acute	LOAEL	25	mg/kg bw			
Terrestrial	Honeybee (<i>Apis mellifera</i>)	Acute	Contact 48h LD50	>100	µg/bee	Practically Non-Toxic	Acceptable	40356602 Dingledine 1985

TCP (Degradate Toxicity Information)

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	16.1	mg/L	Slightly Toxic	Acceptable	41829003 Gorzinski et al. 1991
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	16.3	mg/L	Slightly Toxic	Acceptable	41829004 Gorzinski et al. 1991
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	1.9	mg/L	Moderately Toxic	Acceptable	44585404 Wan et al. 1987
Aquatic	Freshwater fish Coho salmon	Acute	96h LC50	2.3	mg/L	Moderately Toxic	Supplemental	44585404 Wan et al. 1987
Aquatic	Freshwater fish Chum salmon	Acute	96h LC50	2.3	mg/L	Moderately Toxic	Supplemental	44585404 Wan et al. 1987
Aquatic	Freshwater fish Sockeye salmon	Acute	96h LC50	3.2	mg/L	Moderately Toxic	Supplemental	44585404 Wan et al. 1987
Aquatic	Freshwater fish Chinook salmon	Acute	96h LC50	2.7	mg/L	Moderately Toxic	Supplemental	44585404 Wan et al. 1987
Aquatic	Freshwater fish Pink salmon	Acute	96h LC50	3.5	mg/L	Moderately Toxic	Supplemental	44585404 Wan et al. 1987
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	13.4	mg/L	Slightly Toxic	Acceptable	41829003 Gorzinski et al. 1991
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	----	----	----	Limited critical endpoints measured	Invalid	45312002 Kirk et al. 2000
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricornutum</i>)	Acute	4d EC50	2.3	mg/L	Parameter: Growth (Yield)	Supplemental	45312001 Kirk et al. 1999

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricornutum</i>)	Acute	4d NOAEC (as EC05)	0.84	mg/L	Parameter: Growth (Yield)	Supplemental	45312001 Kirk et al. 1999
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabaena flos-aquae</i>)	Acute	5d EC50	2.3	mg/L	Parameter: Growth and Reproduction (Yield)	Supplemental	45312003 Kirk et al. 2000
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabaena flos-aquae</i>)	Acute	5d NOAEC	0.46	mg/L	Parameter: Growth and Reproduction (Yield)	Supplemental	45312003 Kirk et al. 2000
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	8d LD50	> 2585	mg/kg bw	Practically Non-Toxic	Acceptable	41829001 Campbell et al. 1990
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	> 7265	ppm	Practically Non-Toxic	Supplemental	41829002 Long et al. 1990
Terrestrial	Rodent Rat	Acute oral	LD50	1026 (M) 1124 (F)	mg/kg	Slightly Toxic	Acceptable	00064938 Gerbig & Emerson 1970

Triclopyr Triethylamine (TEA) (colored cells are most sensitive for TEA)

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	273.7 (flow-through)	mg/L	Practically Non-Toxic	Acceptable	00151956 McCarty 1978
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	233.1	mg/L	Practically Non-Toxic	Acceptable	00151956 McCarty 1978
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	79.2 (flow-through)	mg/L	Practically Non-Toxic	Acceptable (for formulated product)	00049637 Dow Chemical 1973
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	398.7 (flow-through)	mg/L	Practically Non-Toxic	Acceptable	00151956 McCarty 1978
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	155.4 (flow-through)	mg/L	Practically Non-Toxic	Acceptable (for formulated product)	00049637 Dow Chemical 1973
Aquatic	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Acute	96h LC50	422.8 (flow-through)	mg/L	Practically Non-Toxic	Acceptable	00151956 McCarty 1978
Aquatic	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Acute	96h LC50	168.5 (static)	mg/L	Practically Non-Toxic	Acceptable	00151958 Mayes 1983
Aquatic	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Acute	96h LC50	86.4 (flow-through)	mg/L	Practically Non-Toxic	Acceptable	00151958 Mayes 1983
Aquatic	Marine/Estuarine fish Inland silverside (<i>Menidia beryllina</i>)	Acute	LC50	40.1	mg/L	Practically Non-Toxic	Acceptable (for formulated product)	41633703 Ward 1989
Aquatic	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Chronic	NOEC LOEC	> 32.2 < 50.2	mg/L mg/L	Parameter: Length	Acceptable	00151958 Mayes 1983
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	463.5	mg/L	Practically Non-Toxic	Acceptable	00151959 Gerisch 1982

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	346	mg/L	Practically Non-Toxic	Acceptable	00151956 McCarty 1978
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Chronic	NOEC LOEC	25 46.2	mg/L	total young and mean brood size	Acceptable	00151959 Gerisch 1982
Aquatic	Mollusca Eastern oyster (<i>Crassostrea virginica</i>) (shell deposition)	Acute	LC50/EC50	18.4	mg/L	Slightly Toxic	Acceptable (for formulated product)	42646101 Kowalski 1992
Aquatic	Mollusca Eastern oyster (<i>Crassostrea virginica</i>) (embryo larvae)	Acute	48h EC50	> 16.9 < 26.3	mg/L mg/L	Parameter: 100% abnormal development at 87 ppm	Acceptable (for formulated product)	00062623 EG & G 1975 40346606?
Aquatic	Crustacea Pink shrimp (<i>Penaeus duorarum</i>)	Acute	LC50/EC50	270.5	mg/L	Practically Non-Toxic	Supplemental	00062623 EG & G 1975 40346606?
Aquatic	Crustacea Grass Shrimp (<i>Palaemonetes pugio</i>)	Acute	LC50/EC50	103.7	mg/L	Practically Non-Toxic	Acceptable (for formulated product)	42646102 Kowalski 1992
Aquatic	Crustacea Fiddler crab (<i>Uca pugnator</i>)	Acute	LC50/EC50	> 302.2	mg/L	Practically Non-Toxic	Supplemental	00062623 EG & G 1975 40346606?
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	6.06	mg/L	Parameter: Growth and Reproduction	Acceptable	41633709 Cowgill 1987
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	7.6	mg/L	Parameter: Growth and Reproduction	Acceptable	41736302 Cowgill 1988
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricornutum</i>)	Acute	5d EC50	12.1	mg/L	Parameter: Growth	Acceptable	41736305 Cowgill 1987

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabeana flos-aquae</i>)	Acute	7d EC50	4.1	mg/L	Parameter: Growth	Acceptable	41633706 Cowgill 1987
Aquatic plants	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Acute	4d EC50	10.6	mg/L	Parameter: Growth	Acceptable	41633708 Cowgill 1987
Aquatic plants	Non-vascular aquatic plant Marine diatom (<i>Skeletonema costatum</i>)	Acute	5d EC50	4.6	mg/L	Parameter: Growth	Acceptable	41633707 Cowgill 1987
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Acute oral	14d LD50	1418	mg/kg bw	Practically Non-Toxic	Acceptable	40346501 Fink 1978
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Acute oral	8d LD50	1417.6	mg/kg bw	Practically Non-Toxic	Acceptable	00134178
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	5,189	ppm	Practically Non-Toxic	Acceptable	40346503 Fink 1978
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	> 4,464.8	ppm	Practically Non-Toxic	Acceptable	40346502 Fink 1977
Terrestrial	Rodent Rat	Acute oral	LD50	572 (M & F)	mg/kg	Slightly Toxic	Acceptable	41443301 Mizell & Lomax 1988
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	14d EC25	0.0063	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	NOAEC	0.0028	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annuus</i>) (Vegetative Vigor)	Acute	14d EC25	0.005	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annuus</i>) (Vegetative Vigor)	Acute	NOAEC	0.0028	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annuus</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annuus</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Sugarbeet (<i>Beta vulgaris</i>) (Vegetative Vigor)	Acute	14d EC25	0.030	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Sugarbeet (<i>Beta vulgaris</i>) (Vegetative Vigor)	Acute	14d EC25	0.11	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Sugarbeet (<i>Beta vulgaris</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801
Terrestrial Plant	Terrestrial dicot Sugarbeet (<i>Beta vulgaris</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (Vegetative Vigor)	Acute	14d EC25	0.0135	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (Vegetative Vigor)	Acute	14d EC25	0.018	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Vegetative Vigor)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Oilseed rape (<i>Brassica napus</i>) (Vegetative Vigor)	Acute	14d EC25	0.051	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Oilseed rape (<i>Brassica napus</i>) (Vegetative Vigor)	Acute	14d EC25	0.064	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Oilseed rape (<i>Brassica napus</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Oilseed rape (<i>Brassica napus</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Vegetative Vigor)	Acute	14d EC25	0.125	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Vegetative Vigor)	Acute	14d EC25	0.132	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Corn (<i>Zea mays</i>) (Vegetative Vigor)	Acute	14d EC25	0.121	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Corn (<i>Zea mays</i>) (Vegetative Vigor)	Acute	14d EC25	0.32	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Corn (<i>Zea mays</i>) (Seedling Emergence)	Acute	14d EC25	> 0.23	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Corn (<i>Zea mays</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	14d EC25	> 0.23	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	NOAEC	0.230	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	14d EC25	0.114	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	14d EC25	0.24	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	14d EC25	> 0.69	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Vegetative Vigor)	Acute	14d EC25	0.0057	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Vegetative Vigor)	Acute	NOAEC	0.0003	lbs ae/A	Parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Vegetative Vigor)	Acute	14d EC25	0.028	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Seedling Emergence)	Acute	14d EC25	> 0.23	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Seedling Emergence)	Acute	NOAEC	0.0028	lbs ae/A	Parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Seedling Emergence)	Acute	21d EC25	< 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Monocots & Dicots Veg.Crops (10 Sp.) (Vegetative Vigor)	Acute	6 wks EC25	> 9.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990

Triclopyr Butoxyethyl Ester (BEE) (colored cells are most sensitive for BEE)

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	0.47	mg/L	Highly Toxic	Acceptable	42884501 Woodburn et al. 1993
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	1.29 (Propylene glycol butyl ether)	mg/L	Moderately Toxic	Acceptable	00134181 Acc# 229783?
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	0.70	mg/L	Highly Toxic	Acceptable	43442602 Weinberg et al. 1994
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	24h LC50	0.35-1.2	mg/L	Highly to Moderately Toxic	Supplemental	41971603 Gorzinski 1991
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	1.46 (Propylene glycol butyl ether)	mg/L	Moderately Toxic	Acceptable	00134181 Acc# 229783?
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	0.25	mg/L	Highly Toxic	Acceptable	42917901 Woodburn et al. 1993
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	24h LC50	0.59	mg/L	Moderately Toxic	Supplemental	41971604 Gorzinski 1991
Aquatic	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	0.31	mg/L	Highly Toxic	Acceptable	43442601 Weinberg et al. 1994
Aquatic	Freshwater fish Coho Salmon (<i>Oncorhynchus kisutch</i>)	Acute	96h LC50	0.32-0.33 (yolk-sac fry) 1.0 (juvenile fry)	mg/L mg/L	Highly Toxic Moderately Toxic	Supplemental	41736304 Barron 1987
Aquatic	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Acute	24h LC50	1.7	mg/L	Moderately Toxic	Supplemental	00151965 Batchelder 1981
Aquatic	Marine/Estuarine fish Inland silverside (<i>Menidia beryllina</i>)	Acute	96h LC50	0.32	mg/L	Highly Toxic	Acceptable	42053901 Ward 1991

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic	Marine/Estuarine fish Inland silverside (<i>Menidia beryllina</i>)	Acute	96h LC50	0.34	mg/L	Highly Toxic	Acceptable (for formulated product)	41969901 Ward 1991
Aquatic	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Chronic	NOEC LOEC	0.019 0.034	mg/L mg/L	Very Highly Toxic Parameter: growth effects	Acceptable	43230201 Weinberg et al. 1994
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	1.2	mg/L	Moderately Toxic	Supplemental	00151963 Batchelder 1980
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	8.63	mg/L	Slightly Toxic	Acceptable	00151965 47006032 Milazzo 1981
Aquatic	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	0.25	mg/L	Highly Toxic	Acceptable	43442603 Weinberg et al. 1994
Aquatic	Mollusca Eastern oyster (<i>Crassostrea virginica</i>) (shell deposition)	Acute	96h EC50	0.33 (Species)	mg/L	Highly Toxic	Acceptable	41971602 Boeri 1991
Aquatic	Mollusca Eastern oyster (<i>Crassostrea virginica</i>) (shell deposition)	Acute	96h EC50	0.23	mg/L	Highly Toxic	Acceptable (for formulated product)	41969903 Boeri 1991
Aquatic	Crustacea Grass Shrimp (<i>Palaemonetes pugio</i>)	Acute	96h LC50	1.8	mg/L	Moderately Toxic	Acceptable	41971601 Boeri 1991
Aquatic	Crustacea Grass Shrimp (<i>Palaemonetes pugio</i>)	Acute	96h LC50	0.77	mg/L	Highly Toxic	Acceptable (for formulated product)	41969902 Ward 1991
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	0.86	mg/L	Parameter: Growth and Reproduction	Supplemental (downgraded)	42719101 Milazzo 1993

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Chronic	14d NOAEC	< 0.111	mg/L	Parameter: Growth and Reproduction	Supplemental	42719101 Milazzo 1993
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricornutum</i>)	Acute	5d EC50	2.5	mg/L	Parameter: Growth	Acceptable	41633704, 42090422 Cowgill & Millazzo 1989
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabaena flos-aquae</i>)	Acute	5d EC50	1.42	mg/L	Parameter: Growth	Acceptable	42721101 Hughes 1993
Aquatic plants	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Acute	5d EC50	0.073	mg/L	Parameter: Growth	Acceptable	42721102 Hughes 1993
Aquatic plants (BEE)	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Chronic	5d NOAEC	0.0014	mg/L	Parameter: Growth	Acceptable	42721102 Hughes 1993
Aquatic plants	Non-vascular aquatic plant Marine diatom (<i>Skeletonema costatum</i>)	Acute	5d EC50	0.84	mg/L	Parameter: Growth	Acceptable	42721103 Hughes 1993
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	21d LD50	529	mg/kg bw	Practically Non-Toxic	Acceptable	41902002 Campbell & Lynn 1991
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	14d LD50	611	mg/kg bw	Practically Non-Toxic	Acceptable	41902003 Campbell & Lynn 1991
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	6038	ppm	Slightly Toxic	Acceptable	00134180 Wildlife Int'l 1978
Terrestrial	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	3885	ppm	Slightly Toxic	Acceptable	41905501 Lynn et al. 1991
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	> 6689	ppm	Practically Non-Toxic	Acceptable	00134179 Wildlife Int'l 1977

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	> 3885	ppm	Practically Non-Toxic	Acceptable	41905501 Lynn et al. 1992
Terrestrial	Rodent Rat	Acute oral	LD50	578 (M & F)	mg/kg	Slightly Toxic	Acceptable	40557004 Wall et al. 1987
Terrestrial	Honeybee (<i>Apis mellifera</i>)	Acute	Contact 48h LD50	> 72	µg/bee	Practically Non-Toxic	Acceptable	41219109 Dingledine 1985
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	51d EC25	0.006	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	NOAEC	0.028	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant	Terrestrial dicot Tomato (<i>Lycopersicon esculentum</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	51d EC25	0.053	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995

Habitat	Taxa	Effect Type	Endpoint	Value (expressed as the acid equivalent)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant (BEE)	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	NOAEC	0.0021	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	51d EC25	0.063	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	NOAEC	< 0.063	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant	Terrestrial dicot Sugarbeet (<i>Beta vulgaris</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Corn (<i>Zea mays</i>) (Seedling Emergence)	Acute	21d EC25	> 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Oilseed rape (<i>Brassica napus</i>) (Seedling Emergence)	Acute	21d EC25	< 8.0	lbs ae/A	Parameter: emergence	Acceptable	41734301 Weseloh & Stockdale 1990
Terrestrial Plant	Terrestrial dicot Alfalfa (<i>Medicago sativa</i>) (Seedling Emergence)	Acute	51d EC25	0.045	lbs/A	parameter: emergence	Acceptable	43650001 Schwab 1995
Terrestrial Plant (BEE)	Terrestrial dicot Alfalfa (<i>Medicago sativa</i>) (Seedling Emergence)	Acute	NOAEC	0.0026	lbs/A	parameter: emergence	Acceptable	43650001 Schwab 1995

Triclopyr Butoxyethyl Ester (BEE)/Picloram ethyl ester Mixture

Habitat	Taxa	Effect Type	Endpoint	Value (% ai)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic plants	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50 NOEC	6.6 (9.2; 99.8) 1.03 (1.43; 15.9) (TBEE = 9.2% ai)	mg/L mg/L	Parameter: Growth (plants)	Acceptable	43230310 Milazzo 1994
Aquatic plants	Non-vascular aquatic plant Blue-green algae (<i>Anabeana flos-aquae</i>)	Acute	5d EC50	0.20 (0.276; 3.0) (TBEE = 9.2% ai)	mg/L	Parameter: Growth	Invalid	43230307 Boeri et al. 1994
Aquatic plants	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricortum</i>)	Acute	5d EC50 NOEC	0.32 (0.441; 4.9) 0.211 (0.294; 3.2) (TBEE = 9.2% ai)	mg/L mg/L	Parameter: Growth	Supplemental	42645901 Hughes et al. 1993
Aquatic plants	Non-vascular aquatic plant Marine diatom (<i>Skeletonema costatum</i>)	Acute	5d EC50	0.12 (0.166; 1.8) (TBEE = 9.2% ai)	mg/L	Parameter: Growth	Invalid	43230304 Boeri et al. 1994
Aquatic plants	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Acute	5d EC50	0.36 (0.50; 5.4) (TBEE = 9.2% ai)	mg/L	Parameter: Growth	Invalid	43230301 Boeri et al. 1994
Terrestrial	Honeybee (<i>Apis mellifera</i>)	Acute	Contact 44h LD50	> 1.62 (> 2.25; > 25) (TBEE = 9.2% ai)	µg/bee	Practically Non-Toxic	Acceptable	42625901 Hoxter et al.1992
Terrestrial Plant	Terrestrial dicot Radish (<i>Raphanus sativus</i>) (Vegetative Vigor)	Acute	21 d EC25 NOEL	0.008 (0.035) 0.0035 (0.015) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: height	Supplemental	41296501 Weseloh and Stockdale 1989
Terrestrial Plant	Terrestrial dicot Soybean (<i>Glycine max</i>) (Vegetative Vigor)	Acute	55 d EC25 NOEL	0.00005 (0.00021) 0.000026 (0.00011) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: height	Supplemental	41296501 Weseloh and Stockdale 1989

Habitat	Taxa	Effect Type	Endpoint	Value (% ai)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Vegetative Vigor)	Acute	42 d EC25 NOEL	0.05 (0.21) 0.0146 (0.062) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: height	Supplemental	41296501 Weseloh and Stockdale 1989
Terrestrial Plant	Terrestrial dicot Drybean (<i>Phaseolus vulgaris</i>) (Seedling Emergence)	Acute	14 d EC25 NOEL	0.0000009 (0.000004) < 0.000007 (< 0.00003) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: emergence	Supplemental	41296501 Weseloh and Stockdale 1989
Terrestrial Plant	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	14 d EC25 NOEL	0.008 (0.035) 0.004 (0.0156) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: emergence	Supplemental	41296501 Weseloh and Stockdale 1989
Terrestrial Plant	Terrestrial monocot Wheat (<i>Triticum aestivum</i>) (Seedling Emergence)	Acute	21d EC25 NOEL	0.006 (0.025) 0.02 (0.08) (TBEE = 23.5% ai)	lbs ae/A lbs ae/A	Parameter: emergence	Supplemental	41296501 Weseloh and Stockdale 1989
Terrestrial Plant	Terrestrial Lima bean (<i>Phaseolus lunatus</i>) (Seedling Emergence)	Acute	21d EC25 NOEL	0.00003 (0.00004; 0.00042) (TBEE = 9.2% ai)	lbs ae/A lbs ae/A	Parameter: shoot height	Supplemental	43276601 Schwab 1994
Terrestrial Plant	Terrestrial monocot Barley (<i>Hordeum vulgare</i>) (Seedling Emergence)	Acute	21d EC25 NOEL	0.57 (0.791; 8.6) (TBEE = 9.2% ai))	lbs ae/A lbs ae/A	Parameter: shoot weight	Supplemental	43276601 Schwab 1994

Combined –Most sensitive when converted to acid equivalent (Acid, TEA or BEE)

Habitat	Taxa	Effect Type	Endpoint	Form Tested	Value (acid equivalent)	Value (Original Value)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic (BEE)	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	F (Garlon 4) 62.9% ai TBEE	0.32	0.44	mg/L	Highly Toxic	Acceptable	43442601 Weinberg et al. 1994
Aquatic (BEE)	Freshwater fish Bluegill sunfish (<i>Lepomis macrochirus</i>)	Acute	96h LC50	TGAI 96.98% ai TBEE	0.26	0.36	mg/L	Highly Toxic	Acceptable	42917901 Woodburn et al. 1993
Aquatic (BEE)	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	F (Garlon 4) 62.9% ai TBEE	0.70	0.98	mg/L	Highly Toxic	Acceptable	43442602 Weinberg et al. 1994
Aquatic (BEE)	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Acute	96h LC50	TGAI 96.98% ai TBEE	0.47	0.65	mg/L	Highly Toxic	Acceptable	42884501 Woodburn et al. 1993
Aquatic (BEE)	Freshwater fish Rainbow Trout (<i>Oncorhynchus mykiss</i>)	Chronic	NOEC LOEC	TGAI 96.98% ai TBEE	0.019 0.034	0.0263 0.048	mg/L	Very Highly Toxic Parameter: growth effects	Acceptable	43230201 Weinberg et al. 1994
Aquatic (TEA)	Freshwater fish Fathead Minnow (<i>Pimephales promelas</i>)	Chronic	NOEC LOEC	F 44.9% ai TEA	> 32.2 <50.2	>46.7 (>104) <72.7 (<162)	mg/L	Parameter: Length	Acceptable	00151958 Mayes 1983
Aquatic (BEE)	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	F (Garlon 4) 62.2% ai TBEE	0.25	0.35	mg/L	Highly Toxic	Acceptable	43442603 Weinberg et al. 1994
Aquatic (BEE)	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Acute	48h EC50	TGAI 96.4% ai TBEE	1.2	1.7 (nominal)	mg/L	Moderately Toxic	Supplemental	00151963 Batchelder 1980
Aquatic (TEA)	Freshwater invertebrate Water flea (<i>Daphnia magna</i>)	Chronic	NOEC LOEC	F 44.9% ai TEA	25 46.2	36.2 (80.7) 66.9 (149.0)	mg/L	total young and mean brood size	Acceptable	00151959, 42090411, 92189013 Gerisch 1982
Aquatic plants (BEE)	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	TGAI 96.98% ai TBEE	0.86	1.2	mg/L	Parameter: Growth and Reproduction	Supplemental	42719101 Milazzo et al. 1993

Habitat	Taxa	Effect Type	Endpoint	Form Tested	Value (acid equivalent)	Value (Original Value)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Aquatic plants (BEE)	Duckweed (<i>Lemna gibba</i>)	Chronic	14d NOAEC	TGAI 96.98% ai TBEE	< 0.111	< 0.155	mg/L	Parameter: Growth and Reproduction	Supplemental	42719101 Milazzo et al. 1993
Aquatic plants (TEA)	Vascular aquatic plant Duckweed (<i>Lemna gibba</i>)	Acute	14d EC50	F 44.9% ai TEA	6.1	8.8 (19.5)	mg/L	Parameter: Growth and Reproduction	Acceptable	41633709 Cowgill 1987
Aquatic plants (BEE)	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Acute	5d EC50	TGAI 96.98% ai TBEE	0.073	0.102	mg/L	Parameter: Growth	Acceptable	42721102 Hughes 1993
Aquatic plants (BEE)	Non-vascular aquatic plant Freshwater diatom (<i>Navicula pelliculosa</i>)	Chronic	5d NOAEC	TGAI 96.98% ai TBEE	0.0014	0.002	mg/L	Parameter: Growth	Acceptable	42721102 Hughes 1993
Aquatic plants (TEA)	Non-vascular aquatic plant Blue-green algae (<i>Anabeana flos-aquae</i>)	Acute	7d EC50	F 45% ai TEA	4.1	5.9	mg/L	Parameter: Growth	Acceptable	41633706 Hughes 1987
Aquatic plants (BEE)	Non-vascular aquatic plant Green algae (<i>Kirchneria subcapitata</i>) (Formerly <i>Selenastrum capricortum</i>)	Acute	5d EC50	F 61.3% ai TBEE	2.5	3.4 (5.6)	mg/L	Parameter: Growth	Acceptable	41633704, 42090422 Cowgill & Millazzo 1989
Terrestrial (BEE)	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	21d LD50	TGAI 96.1% ai TBEE	529	735	mg/kg bw	Practically Non-Toxic	Acceptable	41902002 Campbell & Lynn 1991
Terrestrial (BEE)	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Acute oral	14d LD50	F (Garlon 4) 62.9% ai TBEE	611	849 (1350)	mg/kg bw	Practically Non-Toxic	Acceptable	41902003 Campbell & Lynn 1991
Terrestrial (Acid)	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	LC50	TGAI Acid	2934	2934	ppm	Slightly Toxic	Acceptable	40346403 Dow Chemical 1976
Terrestrial (BEE)	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Subacute dietary	8d LC50	TGAI 96.1% ai TBEE	3885	5401	ppm	Slightly Toxic	Supplemental	41905501 Lynn et al. 1991
Terrestrial (BEE)	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Subacute dietary	8d LC50	TGAI 96.1% ai TBEE	> 3,885	> 5,401	ppm	Practically Non-Toxic	Acceptable	41905502 Lynn et al. 1992

Habitat	Taxa	Effect Type	Endpoint	Form Tested	Value (acid equivalent)	Value (Original Value)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial (Acid)	Avian Mallard duck (<i>Anas platyrhynchos</i>)	Chronic	NOAEC LOAEC	TGAI 98.9% ai Acid	100 200	100 200	ppm	# of 14 d old survivors	Acceptable	00031250 Beavers & Fink 1980
Terrestrial (Acid)	Avian Northern bobwhite Quail (<i>Colinus virginianus</i>)	Chronic	NOAEC LOAEC LOAEC	TGAI 98.9% ai Acid	500 >500 200	500 >500 200	ppm ppm ppm	No sign. reproductive impairment	Acceptable	00031251 Beavers & Fink 1979
Terrestrial (Acid)	Rodent Rat	Acute oral	LD50	TGAI Acid	729 (M) 630 (F)	729 (M) 630 (F)	mg/kg	Slightly Toxic	Acceptable	00031940 Henck et al. 1979
Terrestrial (TBEE)	Rodent Rat	Acute oral	LD50	TGAI 96% ai TBEE	578 (M &F)	803 (M & F)	mg/kg	Slightly Toxic	Acceptable	40557004 Wall et al. 1987
Terrestrial (TEA)	Rodent Rat	Acute oral	LD50	TGAI 44.9 % ai TEA	572 (M &F)	1847 (M & F)	mg/kg	Slightly Toxic	Acceptable	41443301 Mizell & Lomax 1988
Terrestrial (Acid)	Rodent	Chronic	NOAEL LOAEL	TGAI 99.4% ai Acid	25 250	25 250	mg/kg bw mg/kg bw	Reproductive/ Systemic	Acceptable (RED 1998)	43545701 Vedula et al 1995
Terrestrial (Acid)	Rodent	Chronic	NOAEL LOAEL	TGAI 99.4% ai Acid	5 25	5 25	mg/kg bw mg/kg bw	Reproductive/ Offspring	Acceptable (HED 2002)	43545701 Vedula et al 1995
Terrestrial (Acid)	Honeybee (<i>Apis mellifera</i>)	Acute	Contact 48h LD50	TGAI 99.2% ai Acid	>100	>100	µg/bee	Practically Non-Toxic	Acceptable	40356602 Dingledine 1985
Terrestrial (BEE)	Honeybee (<i>Apis mellifera</i>)	Acute	Contact 48h LD50	TGAI 97.7% ai TBEE	> 72	> 100	µg/bee	Practically Non-Toxic	Acceptable	41219109 Dingledine 1985
Terrestrial Plant (TEA)	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	14d EC25	F 46.2% ai TEA	0.005	0.0076	lbs/A	parameter: shoot length	Acceptable	43129801 Schwab 1993
Terrestrial Plant (BEE)	Terrestrial dicot Sunflower (<i>Helianthus annus</i>) (Vegetative Vigor)	Acute	51d EC25	F (Garlon 4) 62.2% ai TBEE	0.006	0.0089	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995

Habitat	Taxa	Effect Type	Endpoint	Form Tested	Value (acid equivalent)	Value (Original Value)	Unit	Toxicity category	Study Classification	Source (MRID or Acc#, author)
Terrestrial Plant (BEE)	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	51d EC25	F (Garlon 4) 62.2% ai TBEE	0.063	0.0888	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995
Terrestrial Plant (TEA)	Terrestrial monocot Onion (<i>Allium cepa</i>) (Vegetative Vigor)	Acute	14d EC25	F 46.2% ai TEA	0.114	0.166	lbs/A	parameter: shoot weight	Acceptable	43129801 Schwab 1993
Terrestrial Plant (BEE)	Terrestrial dicot Alfalfa (<i>Medicago sativa</i>) (Seedling Emergence)	Acute	51d EC25	F (Garlon 4) 62.2% ai TBEE	0.045	0.0622	lbs/A	parameter: emergence	Acceptable	43650001 Schwab 1995
Terrestrial Plant (BEE)	Terrestrial monocot Onion (<i>Allium cepa</i>) (Seedling Emergence)	Acute	51d EC25	F (Garlon 4) 62.2% ai TBEE	0.053	0.0732	lbs/A	parameter: shoot weight	Acceptable	43650001 Schwab 1995