MRIDs from the EPA benchmark study for clothianidin: Highlighted studies sent on 9/24/19

Chemical	Common name	Latin name	Species type	% a.i.	Endpoint	Duration	Toxicity Value in µg a.i./L	MRID
Clothianidin							molecular weight = 249.7	45422301
Clothianidin							Vap pressure 25C = 1.3E-15 torr	45422301
Clothianidin							Water solubility 25C = 327 mg/L	45422301
Clothianidin							Koc = 161	45422311
Clothianidin							Koc = 161	45422312
Clothianidin							Koc = 161	45422313
Clothianidin							Koc = 161	45422314
Clothianidin							Koc = 161	45422315
Clothianidin							Koc = 161	45422316
Clothianidin							Aerobic soil half-life 20C = 2709 d	45422325
Clothianidin							Aerobic soil half-life 20C = 2709 d	45422326
Clothianidin							Aerobic aquatic half-life 20C = 187 d	46826903
Clothianidin							Anaerobic aquatic half-life = 81 d	45422330
Clothianidin							Hydrolysis half-life pH 5-9 25C = stable/no evidence of degradation	45422317
Clothianidin							Aqueous photolysis half-life = 0.6 d	45422322
Clothianidin							Benthic compartment half-life 20C = 81 d	45422330
Clothianidin							Heat of Henry 20C = 45727 J/mol	No MRID
Clothianidin	Rainbow trout	Onchorhynchus mykiss	Freshwater fish	96%	Mortality	96 h	>101,500	45422406
Clothianidin	Fathead minnow	Pimephales promelas	Freshwater fish		Growth (length and weight)		NOEC = 9,700; LOEC = 20,000	
Clothianidin	Sheepshead minnow	Cyprinodon variegatus	Saltwater fish		Mortality	96 h	>91,400	45422411
Clothianidin			Saltwater fish				NA	
Clothianidin	Midge	Chironomus riparius	Freshwater invertebrate, pelagic		Immobility	48 h	EC50= 22	45422414

Clothianidin	Midge	Chironomus riparius	Freshwater invertebrate, pelagic		Survival and dry weight	40 d	NOEC = <0.05; LOEC = 0.05	
Clothianidin	Mysid shrimp	Americamysis bahia	Saltwater invertebrate, pelagic		Mortality	96 h	53	45422403
Clothianidin	Mysid shrimp	Americamysis bahia	Saltwater invertebrate, pelagic		Reproduction		NOEC = 5.1; LOEC = 9.7	45422405
Clothianidin	Saltwater diatom	Skeltonema costatum	Saltwater diatom/nonvascular plant		Effects to yield	96 h	IC50 = 17,600; NOEC = 6,350	48720603
Clothianidin	Duckweed	Lemna gibba	Vascular plant		Effects to yield and biomass	14 d	IC50 = >280,000; NOEC = 520	49281301
Clothianidin	Bluegill sunfish	Lepomis macrochirus		97.6	Mortality	96 h	>117,000	45422407
TZNG degradate	Rainbow trout	Onchorhynchus mykiss	Freshwater fish	99	Mortality	96 h	>160,000	45422410
MNG degradate	Rainbow trout	Onchorhynchus mykiss	Freshwater fish	99	Mortality	96 h	>105,000	45422409
TMG degradate	Rainbow trout	Onchorhynchus mykiss	Freshwater fish	99	Mortality	96 h	>110,000	45422408
Clothianidin	Waterflea	Daphnia magna	Waterflea	97.6	Immobility	48 h	>119,000	45422338
Clothianidin		Chironomus riparius	Midge	97.6	Immobility	48 h	22	45422414
Clothianidin		Mysidopsis bahia	Saltwater invertebrate	97.6	Mortality	96 h	53	45422403
Clothianidin		Crassostrea virginica	Saltwater invertebrate	97.6	Shell deposition	96 h	>129,000	45422404
Clothianidin		Daphnia magna	Waterflea	95	Dry weight	NR	NOEC = <42; LOEC = 42	45422412
Clothianidin		Chironomus riparius	Midge	99.2	Mortality	10 d	11	46826902
Clothianidin		Chironomus riparius	Midge	99.2	Dry weight	10 d	NOEC = 1.1; LOEC = 3.4	46826902
Clothianidin		Chironomus dilutus	Midge	98.6	Emergence/reproduction	63 d	NOEC = 1.3; LOEC = 2.5	49844001
Clothianidin		Chironomus dilutus	Midge	99.6	Growh	40 d	NOEC = <0.05; LOEC = 0.05	50344701
Clothianidin		Mysidopsis bahia	Mysid shrimp	97.6	Reproduction	39 d	NOEC = 5.1; LOEC = 9.7	45422405
Clothianidin		Leptochirus plumulosus	Saltwater amphipod	99.4	Mortality	10 d	20.4	47199401
Clothianidin		Leptochirus plumulosus	Saltwater amphipod	99.4		10 d	NOEC = 11.6; LOEC = 28	47199401
TZMU degradate		Chironomus riparius	Midge	98.8	Immobility	48 h	>102,000	45422414
MU degradate		Chironomus riparius	Midge	98.1	Immobility	48 h	>83,600	45422414
TZNG degradate		Chironomus riparius	Midge	98.6	Immobility	48 h	386	45422414
MNG degradate		Chironomus riparius	Midge	99.2	Immobility	48 h	>102,000	45422414
TMG degradate		Chironomus riparius	Midge	98.2	Emergence	28 d	NOEC = <18; LOEC = 18	45422510
TMG degradate		Chironomus dilutus	Midge	NR	Emergence	63 d	NOEC = <15; LOEC = 15	49844002
TMG degradate		Daphnia magna	Waterflea	95.1	Immobility	48 h	~115,200	45422339
MNG degradate		Daphnia magna	Waterflea	99	Immobility	48 h	>100,800	45422340
TZNG		Daphnia magna	Waterflea	99	Immobility	48 h	64,000	45422401

degradate								
Clothianidin	Duckweed	Lemna gibba	Aquatic vascular plant	97.6	Necrotic fronds	14 d	>121,000	45422503
Clothianidin	Duckweed	Lemna gibba	Aquatic vascular plant	97.6	Necrotic fronds	14 d	NOEC = 59,000	45422503
Clothianidin	Green algae	Pseudokirchneriella subcapitata	Aquatic nonvascular plant	97.6	Biomass	120 h	64,000	45422504
Clothianidin	Green algae	Pseudokirchneriella subcapitata	Aquatic nonvascular plant	97.6	Biomass	120 h	NOEC = 3,500	45422504
Clothianidin		Navicula pelliculosa	Aquatic nonvascular plant	99.7	Yield	72 h	26,300	48720602
Clothianidin		Navicula pelliculosa	Aquatic nonvascular plant	99.7	Yield	72 h	NOEC = 15,000	48720602
Clothianidin		Skeltonema costatum	Aquatic nonvascular plant	99.7	Cum biomass	96 h	17,600	48720603
Clothianidin		Skeltonema costatum	Aquatic nonvascular plant	99.7	Cum biomass	96 h	NOEC = 6,350	48720603
Clothianidin	Cyanobacteria	Anabena flosaquae	Aquatic nonvascular plant	99.7	Yield	72 h	31,600	48720601
Clothianidin		Anabena flosaquae	Aquatic nonvascular plant	99.7	Yield	72 h	NOEC = 2,700	48720601
MNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	>100,600	45422506
MNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	NOEC = 100,600	45422506
TZNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	>103,000	45422506
TZNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	NOEC = <103,000	45422506
TZNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	10,000	45422505
TZNG degradate	Green algae	Pseudokirchneriella subcapitata	Algae	99	NR	96 h	NOEC = 1,460	45422505
Clothianidin	Mallard duck	Anas platyrhynchos	Duck	NR	Mortality	5 d	>5,040 mg/kg diet	45422420
Clothianidin	Mallard duck	Anas platyrhynchos	Duck	NR	NR	21 w	525 mg/kg diet	45422422
?	Fathead minnow	Pimephales promelas	Freshwater fish	97.6		33 d	20	45422413
Clothianidin TZNG metabolite	Green algae	Pseudokirchneriella subcapitata	Freshwater green algae	99		96 h	103	45422507
Clothianidin TZNG metabolite	Green algae	Pseudokirchneriella subcapitata	Freshwater green algae	99		96 h	NOEL: 103	45422507

MRIDs from IPM database for clothianidin:

Chemical	Common name	Latin name	Species type	% a.i.	Duration	Toxicity Value in µg a.i./L	MRID
Clothianidin?	Fathead minnow	Pimephales promelas	Freshwater fish	97.6	33 d	20	45422413
Clothianidin TZNG metabolite	Green algae	Pseudokirchneriella subcapitata	Freshwater green algae	99	96 h	103	45422507
Clothianidin TZNG metabolite	Green algae	Pseudokirchneriella subcapitata	Freshwater green algae	99	96 h	NOEL: 103	45422507

Requested IPM database studies are also among those listed on the EPA benchmark study list