

U.S. EPA Region 9 Biological Technical Assistance Group (BTAG) Recommended Toxicity Reference Values for Mammals (Revision Date 11/21/2002)

Chemical	Low TRV mg/kg-day	High TRV mg/kg-day	Test Species	Toxic Endpoint(s)	Reference
Aldrin	0.1	1.0	Rat	Neurobehavioral	Paul <i>et al.</i> , 1992
Arsenic	0.32	-	Rat	Growth, cancer, serum chemistries	Schroeder <i>et al.</i> , 1968
	-	4.7	Rat	Kidney, pulmonary	Brown <i>et al.</i> , 1976
Benzo(a)pyrene	1.31	-	Mouse	Cancer	Neal & Rigdon, 1967
	-	32.8	Mouse	Cancer	Neal & Rigdon, 1967
Butyltins	0.25	-	Rat	Reproductive	Smialowicz <i>et al.</i> , 1989
	-	15	Rat	Reproductive	Ema <i>et al.</i> , 1995
Cadmium	0.06	-	Mouse	Reproductive	Webster, 1988
	-	2.64	Mouse	Reproductive	Schroeder & Mitchener, 1971
Cobalt	1.2	-	Rat	Reproductive	Domingo <i>et al.</i> , 1985
	-	20	Rat	Reproductive	Mollenhauer <i>et al.</i> , 1985
Copper	2.67	-	Mouse	Immunotoxicity	Pocino <i>et al.</i> , 1991
	-	632	Mouse	Mortality, growth, water consumption	Hebert <i>et al.</i> , 1993
DDT and Metabolites	0.8	16	Rat	Reproductive	USEPA (Great Lakes), 1995
Heptachlor	0.13	-	Rat	Reproductive	Shain <i>et al.</i> , 1977
	-	6.8	Rat	Developmental	Narotsky <i>et al.</i> , 1995
Lead	1.0	-	Rat	Kidney	Fowler <i>et al.</i> , 1980
	-	241	Mouse	Growth, liver, kidney	Wise, 1981
Lindane	0.05	-	Rat	Reproductive	Naishtein & Leibovich, 1971
	-	3.75	Mouse	Developmental	Sircar & Lahiri, 1989
Manganese	13.7	-	Mouse	Reproductive	Gray & Laskey, 1980
	-	159	Mouse	Reproductive	Gray & Laskey, 1980
Mercury	0.027	0.27	Mink	Mortality, anorexia, neurological	USEPA (Great Lakes), 1995
	0.25	-	Rat	Reproductive, developmental	USEPA (Great Lakes), 1995
	-	4.0	Rat	Reproductive, developmental	USEPA (Great Lakes), 1995
Methoxychlor	2.5	50	Rat	Reproductive	Gray <i>et al.</i> , 1989
Naphthalene	50	-	Rat	Developmental	Navarro <i>et al.</i> , 1991
	-	150	Rat	Developmental	Navarro <i>et al.</i> , 1991
Nickel	0.133	31.6	Rat	Reproductive	Smith <i>et al.</i> , 1993
PCBs	0.36	-	Mouse	Reproductive	Simmons & McKee, 1992
	-	1.28	Mouse	Reproductive	Linzey, 1987
Selenium	0.05	-	Mouse	Liver	Harr <i>et al.</i> , 1967
	-	1.21	Mouse	Reproductive	Schroeder & Mitchener, 1971
Thallium	0.48	1.43	Rat	Hair loss	Downs <i>et al.</i> , 1960
Zinc	9.60	-	Mouse	Pancreas, adrenal cortex	Aughey <i>et al.</i> , 1977
	-	411	Rat	Developmental	Schlicker & Cox, 1968

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**U.S. EPA Region 9 Biological Technical Assistance Group (BTAG) Recommended
Toxicity Reference Values for Birds (Revision Date 02/24/09)**

Chemical	Low TRV mg/kg-day	High TRV mg/kg-day	Test Species	Toxic Endpoint(s)	Reference
Arsenic	5.5	22.0	Mallard	Reproductive	Stanley <i>et al.</i> , 1994
Butyltins	0.73	45.9	Quail	Reproductive	Schlatterer <i>et al.</i> , 1993
Cadmium	0.7 - -	- 1.0 LOAEL 10.4 Mid-Range Adverse Effect Level	Wood duck Mallard Mallard	Kidney histology Kidney histology Reproductive, multiple systemic effects	Mayack <i>et al.</i> , 1981 Cain <i>et al.</i> , 1983 Richardson <i>et al.</i> , 1974
Copper	2.3 -	- 52.3	Chicken Chicken	Growth Growth, gizzard erosion	Norvell <i>et al.</i> , 1975 Jensen & Maurice, 1978
DDT and Metabolites	0.009 -	- 1.5	Pelican Mallard	Reproductive Reproductive	USEPA (Great Lakes), 1995 USEPA (Great Lakes), 1995
DDE	-	0.6	Mallard	Reproductive	USEPA (Great Lakes), 1995
Lead	0.014 -	- 8.75	Quail Chicken	Reproductive Reproductive	Edens <i>et al.</i> , 1967 Edens & Garlich, 1983
Manganese	77.6	776	Quail	Neurobehavioral	Laskey & Edens, 1985
Mercury	0.039 -	- 0.18	Mallard Mallard	Reproductive Mortality, neurological	USEPA (Great Lakes), 1995 USEPA (Great Lakes), 1995
Nickel	1.38 -	- 56.3	Mallard Mallard	Growth Growth	Cain & Pafford, 1981 Cain & Pafford, 1981
PCBs	0.09 -	- 1.27	Chicken Chicken	Reproductive Reproductive	Platonow & Reinhart, 1973 Britton & Huston, 1973
Selenium	0.23	0.93	Mallard	Reproductive	Heinz <i>et al.</i> , 1989
Zinc	17.2	172	Mallard	Growth, reproductive, multiple organs	Gasaway & Buss, 1972

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