

Indiana Department of Environmental Management
Great Lakes System, Tier I Criteria and Tier II Values Calculated Using the Methodologies at 327 IAC 2-1.5-11 through 15

CAS #	Parameter Name	Aquatic Life Criteria and Values (µg/L)					Human Health Criteria and Values (µg/L)								Wildlife Criteria (µg/L)		
		Acute		Chronic		Date	Human Health Noncancer				Human Health Cancer				Wildlife Criteria	Tier	Date
		Acute (CMC)	Tier	Chronic (CCC)	Tier		Drinking (HNC-D)	Nondrinking (HNC-N)	Tier	Date	Drinking (HCC-D)	Nondrinking (HCC-N)	Tier	Date			
83329	Acenaphthene	140	II	27	II	8/17/00	1,200	4,200	II	3/20/00	-----	-----	---	-----	-----	---	-----
75070	Acetaldehyde ^C	1200	II	130	II	8/18/00	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
34256821	Acetochlor	-----	---	-----	---	-----	450	2300	I	12/4/13	-----	-----	---	-----	-----	---	-----
67641	Acetone	15,000	I	1,700	II	8/17/00	25,000	2,000,000	I	2/28/08	-----	-----	---	-----	-----	---	-----
107028	Acrolein	0.85	II	0.19	II	8/18/00	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
107131	Acrylonitrile ^C	570	II	63	II	3/11/14	-----	-----	---	-----	0.53	3	I	3/21/00	-----	---	-----
15972608	Alachlor	190	II	21	II	8/19/00	210	820	I	7/17/15	-----	-----	---	-----	-----	---	-----
309002	Aldrin ^{c,BCC}	0.15	II	0.035	II	8/21/00	8.2 x 10 ⁻⁵	8.2 x 10 ⁻⁵	II	4/4/00	2.4 x 10 ⁻⁶	2.4 x 10 ⁻⁶	II	3/23/00	-----	---	-----
7429905	Aluminum	-----	---	-----	---	-----	970	4,500	II	3/23/00	-----	-----	---	-----	-----	---	-----
120127	Anthracene	6.1	II	0.68	II	8/22/00	590	630	II	3/23/00	-----	-----	---	-----	-----	---	-----
7440360	Antimony	720	II	80	II	8/22/00	10	2,000	I	3/24/00	-----	-----	---	-----	-----	---	-----
7440382	Arsenic ^C	-----	---	-----	---	-----	10	230	I	3/23/00	-----	-----	---	-----	-----	---	-----
1912249	Atrazine	-----	---	-----	---	-----	920	15,000	II	3/12/14	-----	-----	---	-----	-----	---	-----
7440393	Barium	e ^{(1.0629*(ln(H))+2.2349)}	II	e ^{(1.0629*(ln(H))+1.1928)}	II	12/1/21	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
71432	Benzene ^C	880	II	98	II	8/22/00	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
92875	Benzidine ^C	14	II	1.5	II	8/22/00	74	3,700	I	4/4/00	1.5 x 10 ⁻³	7.5 x 10 ⁻²	I	3/24/00	-----	---	-----
65850	Benzoic Acid	-----	---	-----	---	-----	110,000	3,900,000	I	12/4/13	-----	-----	---	-----	-----	---	-----
50328	Benzo(a)pyrene ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.032	0.096	I	12/4/13	-----	---	-----
7440417	Beryllium ^C	e ^{(1.6839*(ln(H))-3.6603)}	II	e ^{(1.6839*(ln(H))-5.8575)}	II	5/22/15	40	300	I	3/28/00	-----	-----	---	-----	-----	---	-----
108601	Bis (2-chloroisopropyl) ether ^C	-----	---	-----	---	-----	990	48,000	I	3/31/00	-----	-----	---	-----	-----	---	-----
542881	Bis (chloromethyl) ether ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.0016	0.11	I	3/31/00	-----	---	-----
117817	Bis (2-ethylhexyl)phthalate (DEHP) ^C	-----	---	-----	---	-----	54	60	II	4/3/00	2.5	2.8	II	4/3/00	-----	---	-----
7440428	Boron	41,000	I	7,700	I	7/10/13	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
7726956	Bromine	2.4	II	0.26	II	3/13/23	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
75252	Bromoform ^C	1,100	II	61	II	8/23/00	470	8,100	I	4/7/00	42	710	I	4/7/00	-----	---	-----
78933	2-Butanone	120,000	II	14,000	II	8/23/00	16	1,300	I	7/13/98	-----	-----	---	-----	-----	---	-----
7440439	Cadmium ^C	-----	---	-----	---	-----	14	1,400	I	4/7/00	-----	-----	---	-----	-----	---	-----
75150	Carbon Disulfide	-----	---	-----	---	-----	3,000	100,000	I	4/7/00	-----	-----	---	-----	-----	---	-----
56235	Carbon Tetrachloride ^C	360	II	40	II	10/4/00	17	120	I	12/18/13	2.4	19	I	4/11/00	-----	---	-----
124481	Chlorodibromomethane ^C	-----	---	-----	---	-----	570	12,000	I	1/10/14	4	86	I	1/10/14	-----	---	-----
67663	Chloroform ^C	1,300	II	170	II	10/5/00	350	11,000	I	4/11/00	56	1,700	I	4/11/00	-----	---	-----
16065831	Chromium III	-----	---	-----	---	-----	410,000	43,000,000	I	4/11/00	-----	-----	---	-----	-----	---	-----
18540299	Chromium VI	-----	---	-----	---	-----	230	25,000	I	4/11/00	-----	-----	---	-----	-----	---	-----
7440508	Copper	-----	---	-----	---	-----	280	56,000	I	4/12/00	-----	-----	---	-----	-----	---	-----
7440484	Cobalt	120	II	19	II	1/12/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
21725462	Cyanazine	2,400	II	270	II	3/29/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
94757	2,4-D	2,500	II	240	II	2/8/01	250	2,000	I	4/12/00	-----	-----	---	-----	-----	---	-----
50293	DDT ^{C,BCC}	0.45	I	0.032	II	5/16/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
132649	Dibenzofuran	65	II	7.3	II	5/16/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
84742	Dibutyl Phthalate	34	II	19	II	3/17/14	31	31	II	4/13/00	-----	-----	---	-----	-----	---	-----
95501	1,2-Dichlorobenzene	130	II	14	II	4/24/01	1,700	6,000	I	4/13/00	-----	-----	---	-----	-----	---	-----

CAS #	Parameter Name	Aquatic Life Criteria and Values (µg/L)					Human Health Criteria and Values (µg/L)								Wildlife Criteria (µg/L)			
		Acute		Chronic		Date	Human Health Noncancer				Human Health Cancer				Wildlife Criteria	Tier	Date	
		Acute (CMC)	Tier	Chronic (CCC)	Tier		Drinking (HNC-D)	Nondrinking (HNC-N)	Tier	Date	Drinking (HCC-D)	Nondrinking (HCC-N)	Tier	Date				
541731	1,3-Dichlorobenzene	310	II	52	II	4/25/01	-----	-----	---	-----	-----	-----	---	-----	-----	-----	-----	-----
106467	1,4-Dichlorobenzene	80	II	16	II	4/25/01	-----	-----	---	-----	-----	-----	---	-----	-----	-----	-----	-----
91941	3,3'-Dichlorobenzidine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.43	0.95	I	4/13/00	-----	---	-----	
75274	Dichlorobromomethane ^C	-----	---	-----	---	-----	480	13,000	I	1/16/14	5.5	150	I	1/16/14	-----	---	-----	
75343	1,1-Dichloroethane	6,600	II	740	II	6/26/01	1,100	27,000	II	4/17/00	-----	-----	---	-----	-----	---	-----	
107062	1,2-Dichloroethane ^C	7,300	II	980	II	3/17/14	4	210	I	4/17/00	-----	-----	---	-----	-----	---	-----	
75354	1,1-Dichloroethylene	1,900	II	210	II	4/24/01	240	4,100	I	4/17/00	-----	-----	---	-----	-----	---	-----	
156592	1,2-cis-Dichloroethylene	5,500	II	620	II	6/26/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
156605	1,2-trans-Dichloroethylene	5,000	II	560	II	9/19/01	470	25,000	I	1/16/14	-----	-----	---	-----	-----	---	-----	
120832	2,4-Dichlorophenol	120	II	17	II	4/6/01	71	450	I	1/16/14	-----	-----	---	-----	-----	---	-----	
542756	1,3-Dichloropropene ^C	17	II	1.9	II	4/25/01	940	46,000	I	9/12/00	3.4	170	I	9/12/00	-----	---	-----	
60571	Dieldrin ^{C,BCC}	-----	---	-----	---	-----	-----	-----	---	-----	-----	-----	---	-----	7.1x10 ⁻⁵	I	10/5/98	
105679	2,4 Dimethyl phenol	140	II	21	II	4/2/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
84662	Diethyl Phthalate	-----	---	-----	---	-----	21,000	1,200,000	I	3/7/00	-----	-----	---	-----	-----	---	-----	
131113	Dimethyl Phthalate	2,800	II	1,000	II	4/3/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
122667	1,2-Diphenylhydrazine ^C	9.6	II	1.1	II	4/25/01	-----	-----	---	-----	0.36	2.1	I	4/18/00	-----	---	-----	
115297	Endosulfan	0.10	I	0.05	I	5/16/01	85	170	II	3/19/14	-----	-----	---	-----	-----	---	-----	
72208	Endrin ^{BCC}	-----	---	-----	---	-----	0.19	0.19	II	3/18/14	-----	-----	---	-----	-----	---	-----	
100414	Ethylbenzene	1,000	II	110	II	5/16/01	2,100	9,100	I	4/19/00	-----	-----	---	-----	-----	---	-----	
106934	Ethylene Dibromide ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.004	0.17	I	4/19/00	-----	---	-----	
107211	Ethylene Glycol	2,200,000	II	240,000	II	5/16/01	56,000	4,500,000	I	1/17/14	-----	-----	---	-----	73,000	II	3/15/99	
16984488	Fluoride	e ^{(0.5137*(ln(H))-0.0369)}	I	e ^{(0.5137*(ln(H))-0.7626)}	I	10/28/11	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
206440	Fluoranthene	17	II	3.6	II	4/11/01	9.4	9.5	II	3/20/14	-----	-----	---	-----	-----	---	-----	
86737	Fluorene	22	II	2.4	II	3/20/14	250	320	II	3/20/14	-----	-----	---	-----	-----	---	-----	
50000	Formaldehyde ^C	660	II	74	II	5/16/01	4,200	320,000	I	1/17/14	-----	-----	---	-----	-----	---	-----	
76448	Heptachlor ^C	-----	---	-----	---	-----	0.29	0.29	II	9/18/00	0.0016	0.0016	II	3/7/00	-----	---	-----	
87683	Hexachlorobutadiene ^{C,BCC}	-----	---	-----	---	-----	-----	-----	---	-----	0.22	0.24	II	12/8/99	-----	---	-----	
319846	alpha-Hexachlorocyclohexane ^{C,BCC}	-----	---	-----	---	-----	-----	-----	---	-----	0.015	0.027	II	3/20/14	-----	---	-----	
319857	beta-Hexachlorocyclohexane ^{C,BCC}	-----	---	-----	---	-----	-----	-----	---	-----	0.093	0.18	II	3/9/00	-----	---	-----	
608731	Hexachlorocyclohexane ^{C,BCC}	-----	---	-----	---	-----	-----	-----	---	-----	0.093	0.18	II	3/9/00	-----	---	-----	
77474	Hexachlorocyclopentadiene	-----	---	-----	---	-----	170	1,500	I	3/15/00	-----	-----	---	-----	-----	---	-----	
78591	Isophorone	7,500	II	830	II	5/16/01	4,100	110,000	I	4/20/00	-----	-----	---	-----	-----	---	-----	
7439932	Lithium	910	I	440	I	8/9/21	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
7439965	Manganese	e ^{(0.8784*(ln(H))+4.3075)}	I	e ^{(0.8784*(ln(H))+3.5385)}	I	12/2/21	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
67561	Methanol	3,000	II	330	II	7/17/01	14,000	1,100,000	I	1/17/14	-----	-----	---	-----	-----	---	-----	
72435	Methoxychlor	-----	---	-----	---	-----	6.3	6.6	II	1/17/14	-----	-----	---	-----	-----	---	-----	
74895	Methylamine	7,700	II	860	II	4/12/99	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
75092	Methylene Chloride ^C	14,000	II	1,500	II	7/17/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
95487	2-Methylphenol	600	II	67	II	5/15/01	1,400	44,000	I	1/17/14	-----	-----	---	-----	-----	---	-----	
106445	4-Methylphenol	480	II	53	II	5/15/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
1634044	Methyl tert-Butyl Ether	6,500	II	730	II	9/18/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	
51218452	Metolachlor	-----	---	-----	---	-----	3,000	11,000	I	1/17/14	-----	-----	---	-----	-----	---	-----	
7439987	Molybdenum	7,200	II	800	II	9/18/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----	

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		Acute		Chronic		Date	Human Health Noncancer				Human Health Cancer				Wildlife Criteria	Tier	Date
		Acute (CMC)	Tier	Chronic (CCC)	Tier		Drinking (HNC-D)	Nondrinking (HNC-N)	Tier	Date	Drinking (HCC-D)	Nondrinking (HCC-N)	Tier	Date			
91203	Naphthalene	200	II	26	II	9/18/01	490	1,900	I	7/26/00	-----	-----	---	-----	-----	---	-----
7440020	Nickel	-----	---	-----	---	-----	460	42,000	I	7/26/00	-----	-----	---	-----	-----	---	-----
98953	Nitrobenzene	1,000	II	220	II	9/18/01	13	28,000	I	7/26/00	-----	-----	---	-----	-----	---	-----
88755	2-Nitrophenol	650	II	73	II	5/15/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
100027	4-Nitrophenol	530	II	58	II	4/14/99	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
55185	N-Nitrosodiethylamine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.0023	0.18	I	8/23/00	-----	---	-----
62759	N-Nitrosodimethylamine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.0068	0.55	I	8/23/00	-----	---	-----
924163	N-Nitrosodi-n-butylamine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.06	0.73	I	8/24/00	-----	---	-----
86306	N-Nitrosodiphenylamine ^C	220	II	25	II	9/19/01	-----	-----	---	-----	36	74	I	8/24/00	-----	---	-----
621647	N-Nitrosodipropylamine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.049	2.9	I	3/11/14	-----	---	-----
930552	N-Nitrosopyrrolidine ^C	-----	---	-----	---	-----	-----	-----	---	-----	0.16	13	I	3/11/14	-----	---	-----
84852153 and 25154523	Nonylphenol	28	I	6.6	I	12/05	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
608935	Pentachlorobenzene ^{BCC}	16	II	3.1	II	12/7/99	0.18	0.18	I	3/11/14	-----	-----	---	-----	-----	---	-----
87865	Pentachlorophenol ^C	-----	---	-----	---	-----	820	24,000	I	9/14/00	2.8	84	I	9/14/00	-----	---	-----
85018	Phenanthrene	8.4	II	0.93	II	9/19/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
108952	Phenol	1,300	I	180	II	5/22/02	2,000	2,300	II	9/14/00	-----	-----	---	-----	-----	---	-----
57556	Propylene Glycol	700,000	II	78,000	II	9/19/01	700,000	56,000,000	I	9/15/00	-----	-----	---	-----	900,000	II	3/15/99
129000	Pyrene	-----	---	-----	---	-----	15	15	II	9/15/00	-----	-----	---	-----	-----	---	-----
7782492	Selenium	-----	---	-----	---	-----	140	3,400	I	9/15/00	-----	-----	---	-----	-----	---	-----
7440224	Silver	0.54*0.85 ^D	I	0.058*1.0 ^D	II	1/5/09	130	26,000	I	9/18/00	-----	-----	---	-----	-----	---	-----
122349	Simazine	80	II	8.9	II	9/19/01	140	3,800	I	8/1/97	-----	-----	---	-----	-----	---	-----
7440246	Strontium	40,000	I	21,000	II	4/29/13	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
100425	Styrene	-----	---	-----	---	-----	5,000	32,000	I	9/18/00	-----	-----	---	-----	-----	---	-----
95943	1,2,4,5-Tetrachlorobenzene ^{BCC}	75	II	8.3	II	12/16/99	0.35	0.36	I	3/17/14	-----	-----	---	-----	-----	---	-----
127184	Tetrachloroethylene ^C	480	II	60	II	9/19/01	320	1,700	I	3/11/14	11	60	I	9/20/00	-----	---	-----
7440280	Thallium	47	II	13	II	5/20/09	2	5	I	3/11/14	-----	-----	---	-----	-----	---	-----
108883	Toluene	840	II	94	II	9/20/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
8001352	Toxaphene ^{C, BCC}	-----	---	-----	---	-----	-----	-----	---	-----	-----	-----	---	-----	1.7 x 10 ⁻⁴	I	10/14/98
56359	Tributyltin Oxide	-----	---	-----	---	-----	3.3	5.4	II	4/7/14	-----	-----	---	-----	-----	---	-----
71556	1,1,1-Trichloroethane	3,700	II	410	II	6/1/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
79005	1,1,2-Trichloroethane	490	II	87	II	7/17/01	110	3,000	I	9/27/00	-----	-----	---	-----	-----	---	-----
79345	1,1,2,2-Tetrachloroethane ^C	910	II	200	II	6/1/01	-----	-----	---	-----	1.6	17	II	4/7/14	-----	---	-----
79016	Trichloroethylene ^C	2,300	II	260	II	9/21/01	-----	-----	---	-----	-----	-----	---	-----	-----	---	-----
95954	2,4,5-Trichlorophenol	17	II	1.9	II	9/25/01	1,300	2,500	II	4/7/14	-----	-----	---	-----	-----	---	-----
88062	2,4,6-Trichlorophenol ^C	12	II	1.4	II	9/25/01	-----	-----	---	-----	27	200	I	3/11/14	-----	---	-----
7440622	Vanadium	79	II	27	II	4/26/11	230	2,300	I	9/28/00	-----	-----	---	-----	-----	---	-----
75014	Vinyl Chloride ^C	8,400	II	930	II	6/26/01	83	4,900	I	9/28/00	0.25	14	I	9/28/00	-----	---	-----
1330207	Xylene	310	II	35	II	9/21/01	38,000	150,000	I	9/28/00	-----	-----	---	-----	-----	---	-----
7440666	Zinc	-----	---	-----	---	-----	9,000	250,000	I	9/29/00	-----	-----	---	-----	-----	---	-----

Notes

All criteria and values are expressed as total unless otherwise specified
C = substance is considered to be carcinogenic
BCC = Bioaccumulative Chemical of Concern (listed in 327 IAC 2-1.5-6(b))

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		Acute		Chronic			Human Health Noncancer				Human Health Cancer				Wildlife Criteria	Tier	Date
		Acute (CMC)	Tier	Chronic (CCC)	Tier	Date	Drinking (HNC-D)	Nondrinking (HNC-N)	Tier	Date	Drinking (HCC-D)	Nondrinking (HCC-N)	Tier	Date			

All Tier I criteria and Tier II values in this table are subject to change as more data become available.
Date = date criteria was last revised
C= substance is considered to be carcinogenic
D = criterion or value is expressed as dissolved

Last modified: May 25, 2023

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Errors corrected and other edits added since last spreadsheet version dating December 3, 2021
New or revised criteria added to spreadsheet since last spreadsheet version dating December 3, 2021