

CR 90-223



State of Wisconsin \ DEPARTMENT OF NATURAL RESOURCES

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STATE OF WISCONSIN)
DEPARTMENT OF NATURAL RESOURCES) ss

TO ALL TO WHOM THESE PRESENTS SHALL COME, GREETINGS:

I, Bruce B. Braun, Deputy Secretary of the Department of Natural Resources and custodian of the official records of said Department, do hereby certify that the annexed copy of Natural Resources Board Order No. WR-72-90 was duly approved and adopted by this Department on March 28, 1991. I further certify that said copy has been compared by me with the original on file in this Department and that the same is a true copy thereof, and of the whole of such original.

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IN TESTIMONY WHEREOF, I have here- unto set my hand and affixed the official seal of the Department at the Natural Resources Building in the City of Madison, this 29th day of May, 1991.

[Signature of Bruce B. Braun]
Bruce B. Braun, Deputy Secretary

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ORDER OF THE STATE OF WISCONSIN NATURAL RESOURCES BOARD
RENUMBERING, AMENDING AND CREATING RULES

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IN THE MATTER of amending s. NR 105.07(1)(b) Table 7 .
and 105.09(4)(a) Table 9 and (6) of the Wisconsin .
Administrative Code pertaining to surface water quality .
criteria for toxic substances .
.....

WR-72-90

Analysis Prepared by Department of Natural Resources

Statutory authority: ss. 144.025(2)(b) and 227.11(2)(a), Stats.
Statutes interpreted: s. 144.025(2)(b), Stats.

The proposed revisions to s. NR 105 establish revised surface water criteria for polychlorinated biphenyls (PCBs), to protect animal and human health, in a manner that is consistent with the most advanced science. Existing criteria are based, in part, on estimating the toxicity of complex mixtures of PCBs known as Aroclors. The proposed revision eliminates the Aroclor specific criteria and establishes total PCB criteria for wildlife and human health protection. Also, a typographical error is corrected in the DDT criteria for wildlife.

SECTION 1. NR 105.07(1)(b) Table 7 is amended to read:

Table 7
Wild and Domestic Animal Criteria

<u>Substance</u>	<u>Criteria (all in ng/L)</u>
DDT & Metabolites	0.15 <u>0.015</u>
Mercury	2.0
Polychlorinated Biphenyls	3.0*

~~*For purposes of regulating the discharge of PCB under ch. NR 106 the WDAG shall apply according to the specific Aroclor criteria given below.~~

Aroclor 1248, 1254, 1260	3.0 ng/L
Aroclor 1221, 1232, 1242	47.0 ng/L
Aroclor 1016	233.0 ng/L

~~If a discharge contains more than one Aroclor mixture or if the Aroclor mixture in the discharge is unknown, the discharge will be regulated based on the most toxic Aroclor mixture. In determining for a discharge the Aroclor mixture present or the predominant Aroclor mixture, when more than one Aroclor is present, the department may take into account factors such as: source of the PCB Aroclor or Aroclor mixture, historical information, amount of quantitative chemical information, quality of available data, and variability of the data.~~

SECTION 2. NR 105.09(4)(a) Table 9 is renumbered 105.09(3) Table 9, and as renumbered is amended to read:

Table 9
Human Cancer Criteria (ug/L unless specified otherwise¹)

Substance	Public Water Supply			Non-public Water Supply		
	Warm Water Sport Fish Communities	Cold Water Communities	Great Lakes Communities	Warm Water Sport Fish Communities	Cold Water Communities	Warm Water Forage and Limited Forage Fish Communities and Limited Aquatic Life
Acrylonitrile	0.56	0.44	0.44	4.7	1.4	130
Aldrin (ng/L)	0.54	0.17	0.17	0.57	0.17	6100
Arsenic ²	50	50	50	50	50	50
alpha-BHC	0.07	0.033	0.034	0.15	0.045	26
beta-BHC	0.12	0.059	0.06	0.27	0.079	46
gamma-BHC (lindane)	0.14	0.067	0.068	0.3	0.09	53
BHC, technical grade	0.094	0.044	0.045	0.2	0.06	35
Benzene ³	5	5	5	140	45	1300
Benzidine (ng/L)	1.1	0.64	0.65	3.8	1.1	300
Benzo(a)pyrene	0.023	0.023	0.023	0.1	0.1	6.1
Beryllium	0.033	0.033	0.033	0.2	0.2	7.9
Bis(2-chloroethyl) ether	0.3	0.28	0.28	8.8	2.9	61
Bis(chloromethyl) ether (ng/L)	0.037	0.037	0.037	3.4	1.5	7.5
Carbon tetrachloride	2.5	2.1	2.1	31	10	540
Chlordane (ng/L)	4.3	1.3	1.3	4.4	1.3	54000
Chloroethene (vinyl chloride)	0.15	0.15	0.15	10	3.7	30
Chloroform(trichloromethane)	1.9	1.8	1.8	87	31	380
4,4'-DDT (ng/L)	0.14	0.042	0.043	0.14	0.042	8300
1,4-Dichlorobenzene	15	11	11	100	30	3500
3,3'-Dichlorobenzidine	0.09	0.038	0.039	0.16	0.047	41
1,2-Dichloroethane	3.8	3.7	3.7	370	170	760
1,1-Dichloroethene	2.3	2.1	2.1	48	15	480
Dichloromethane (methylene chloride)	48	47	47	3600	1400	9600
Dieldrin (ng/L)	0.54	0.17	0.17	0.57	0.17	2300
2,4-Dinitrotoluene	9.2	8.6	8.6	260	85	1900
1,2-Diphenylhydrazine	0.39	0.28	0.28	2.4	0.74	91
Halomethanes ⁴	1.9	1.8	1.8	87	31	380
Heptachlor (ng/L)	1.4	0.41	0.42	1.4	0.42	16000
Hexachlorobenzene (ng/L)	5.3	1.6	1.6	5.5	1.6	41000
Hexachlorobutadiene	4.4	4.2	4.2	160	53	900
Hexachloroethane	18	11	11	65	19	4900
N-Nitrosodiethylamine (ng/L)	8	8	8	1100	670	1600
N-Nitrosodimethylamine	0.013	0.013	0.013	1.8	1	2.7
N-Nitrosodi-n-butylamine	0.063	0.059	0.059	1.9	0.64	13
N-Nitrosodiphenylamine	45	24	24	120	36	14000
N-Nitrosopyrrolidine	0.16	0.16	0.16	29	23	33
Polychlorinated biphenyls, (ng/L) ⁵	0.49	0.14	0.15	0.49	0.15	16000
Polynuclear Aromatic Hydrocarbons ^{6, 2}	0.023	0.023	0.023	0.1	0.1	6.1
2,3,7,8-Tetrachloro-dibenzo-p-dioxin (pg/L)	0.097	0.03	0.03	0.1	0.03	450
1,1,2,2-Tetrachloroethane	1.7	1.6	1.6	64	22	350
Tetrachloroethene	5.8	4.6	4.6	49	15	1300
Toxaphene (ng/L)	5.6	1.7	1.7	5.7	1.7	62000
1,1,2-Trichloroethane	5.8	5.3	5.3	140	46	1200
Trichloroethene ³	5	5	5	360	110	3600
2,4,6-Trichlorophenol	9	4.1	4.2	18	5.4	3600

¹ A human cancer criterion expressed in micrograms per liter (ug/L), nanograms per liter (ng/L) or picograms per liter (pg/L) can be converted to milligrams per liter (mg/L) by dividing the criterion by 1000, 1,000,000 or 1,000,000,000, respectively.

² Human cancer criteria for arsenic equal the maximum contaminant level.

- ³ For this substance the human cancer criteria for public water supply receiving water classifications equal the maximum contaminant level pursuant to s. NR 105.09(4)(b).
- ⁴ Human cancer criteria for halomethanes are applicable to any combination of the following chemicals: bromomethane (methyl bromide), chloromethane (methyl chloride), tribromomethane (bromoform), bromodichloromethane (dichloromethyl bromide), dichlorodifluoromethane (fluorocarbon 12) and trichlorofluoromethane (fluorocarbon 11).
- ~~For purposes of regulating the discharge of polychlorinated biphenyls (PCB) under ch. NR 106, the human cancer criteria for PCB shall apply only to Aroclors 1254 and 1260. In determining for a discharge the Aroclor mixture present or the predominant Aroclor mixture, when more than one Aroclor is present, the department may take into account factors such as: source of the PCB Aroclor or Aroclor mixture, historical information, amount of quantitative chemical information, quality of available data, and variability of the data. If a discharge contains more than one Aroclor mixture or if the Aroclor mixture in the discharge is unknown, the discharge will be regulated based on the most toxic Aroclor mixture.~~
- ⁵ Human cancer criteria for polynuclear aromatic hydrocarbons are applicable to any combination of the following chemicals: benzo(a)anthracene (1,2-benzanthracene), benzo(b)fluoranthene (3,4-benzofluoranthene), benzo(g,h,i)perylene (1,12-benzoperylene), benzo(k)fluoranthene (11,12-benzofluoranthene), chrysene, dibenzo(a,h)anthracene (1,2,5,6-dibenzanthracene), indeno(1,2,3-cd)pyrene, phenanthrene and pyrene.

SECTION 3. NR 105.09(6) is amended to read:

NR 105.09(6) For informational purposes, the department shall maintain a comprehensive list of known or suspected human carcinogens. This list shall be updated at least yearly. ~~Whenever the National Toxicology Program or the International Agency for Research on Cancer determines that Aroclors of PCB other than those in footnote 5 of Table 9 are carcinogens, the department shall enact amendments to this section under s. 227.24, Stats., (emergency rule) to regulate those additional Aroclors as human carcinogens under this section.~~

The foregoing rules were approved and adopted by the State of Wisconsin Natural Resources Board on March 28, 1991.

The rules shall take effect on the first day of the month following publication in the Wisconsin administrative register as provided in s. 227.22(2)(intro.), Stats.

Dated at Madison, Wisconsin May 28, 1991

STATE OF WISCONSIN
DEPARTMENT OF NATURAL RESOURCES

By Carroll D. Besadny
Carroll D. Besadny, Secretary

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