

Wisconsin Department of Natural Resources

The tables on the following pages include:

- **Table I - Drinking Water & Groundwater Quality Health Standards/Advisory Levels**
 - Wisconsin ch. NR 140 public health groundwater quality Enforcement Standard (ES)
 - Wisconsin ch. NR 809 Maximum Contaminant Level (MCL)
 - Health Advisory Level (HAL) established by the Wisconsin Department of Health Services (DHS), or the United States Environmental Protection Agency (EPA) for contaminants in groundwater and drinking water.
 - HALs established by DHS or EPA serve as technical advice to assist with water consumption advisories and groundwater remediation decisions.
- **Table II - Drinking Water & Groundwater Quality Public Welfare/Secondary Standards**
 - Wisconsin NR 140 public welfare groundwater quality Enforcement Standard (ES)
 - Wisconsin NR 809 Secondary Standards

Notes:

- NR 140 health and welfare based ESs, and NR 809 MCLs are enforceable standards established to protect public health and welfare by limiting the levels of contaminants in groundwater and drinking water.
- NR 809 Secondary Standards are guidelines established to address cosmetic and aesthetic effects of substances present in drinking water supplies.
- NR 140 also contains a lower set of groundwater quality standards called Preventive Action Limits (PALs). NR 140 PALs serve as indicators of potential contamination problems and are also the limits at which response actions under NR 140 may be required. PAL values for public health and welfare related substances are listed in [Tables 1 and 2 in NR 140](#).

Resources:

- [Ch. NR 140 Wis. Adm. Code](#)
- [Ch. NR 809 Wis. Adm. Code](#)
- [DHS Drinking Water: Groundwater Standards](#)
- [EPA Health Advisories](#)
- [EPA Integrated Risk Information System \(IRIS\)](#)
- [EPA Office of Ground Water & Drinking Water](#)
- [EPA Office of Pollution Prevention and Toxics](#)
- [Agency for Toxic Substances and Disease Registry \(ATSDR\)](#)

Table I - Drinking Water & Groundwater Quality Health Standards/Advisory Levels

Substance	CAS Registry Number	NR 140 Public Health ES (ug/L except as noted)	NR 809 MCL (ug/L except as noted)	WI DHS/US EPA Lifetime HAL/CR (ug/L except as noted)		US EPA/IARC Cancer Class/Group
Acetochlor	34256-82-1	7				-
Acetochlor ethane sulfonic acid + oxanilic acid	187022-11-3 (ESA)	230				-
(Acetochlor - ESA+OXA)	184992-44-4 (OXA)					
Acetone	67-64-1	9 mg/L				-
Acifluorfen (sodium)	62476-59-9			1	DHS	L/N
Acrylamide	79-06-1		TT ^c	0.008	EPA	B2
Acrylonitrile	107-13-1			0.06	EPA	B1
Alachlor	15972-60-8	2	2			B2
Alachlor ethane sulfonic acid (Alachlor-ESA)	142363-53-9	20				-
Aldicarb	116-06-3	10				D
Aldicarb Sulfone	1646-88-4			7 ^a	EPA	D
Aldicarb Sulfoxide	1646-87-3			7 ^a	EPA	D
Aldrin	309-00-2			0.002	EPA	B2
Aluminum	7429-90-5	200				-
Ametryn	834-12-8			60	EPA	D
2-Amino-4,6-dinitrotoluene (2A-DNT)	35572-78-2			1	DHS	
2-Amino-3-Nitrotoluene	570-24-1			4 total ***	DHS	
2-Amino-4-Nitrotoluene	99-55-8			4 total ***	DHS	
2-Amino-6-Nitrotoluene	603-83-8			4 total ***	DHS	
4-Amino-2-Nitrotoluene	119-32-4			4 total ***	DHS	
4-Amino-3-Nitrotoluene	89-62-3			4 total ***	DHS	
Ammonia (as N)	7664-41-7	9.7 mg/L				D
Ammonium sulfamate	7773-06-0			2 mg/L	EPA	D
Anthracene	120-12-7	3 mg/L				D
Antimony	7440-36-0	6	6			D
Arsenic	7440-38-2	10	10			A
Asbestos	1332-21-4	7 MFL	7 MFL			A ^e
Atrazine, total chlorinated residues ^f	multiple	3	3			N
Bacteria, Total Coliform	-			0	DHS	-
Bacteria, <i>E. coli</i>	-	0				-
Barium	7440-39-3	2 mg/L	2 mg/L			N

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Bayelton	43121-43-3			25	DHS	-
Baygon	114-26-1			3	EPA	C
Bentazon	25057-89-0	300				E
Benzene	71-43-2	5	5			H
Benzo(b)fluoranthene	205-99-2	0.2				B2
Benzo[g,h,i]perylene	191-24-2			30	DHS	D
Benzoic acid	65-85-0			40 mg/L	DHS	-
Benzo(a)pyrene	50-32-8	0.2	0.2			B2
Beryllium	7440-41-7	4	4			-
Beta particle and photon activity	-		4 millirem/yr			A
Bis-2-Chloroisopropyl ether	39638-32-9			300	EPA	D
Boron	7440-42-8	1,000		2,000	DHS	N
Bromacil	314-40-9			70	EPA	C
Bromate	7789-38-0		10			B2
Bromobenzene	108-86-1			70	EPA	I
Bromochloromethane	74-97-5			90	EPA	D
Bromodichloromethane	75-27-4	0.6	80 total *			L
Bromoform (Tribromomethane)	75-25-2	4.4	80 total *			L
Bromomethane	74-83-9	10				D
Butylate	2008-41-5	400				D
Cadmium	7440-43-9	5	5			D
Carbaryl	63-25-2	40				L
Carbofuran	1563-66-2	40	40			N
Carbon disulfide	75-15-0	1,000				-
Carbon tetrachloride	56-23-5	5	5			B2
Carboxin	5234-68-4			700	EPA	D
Chloramben	133-90-4	150				D
Chloramine (Monochloramine)	10599-90-3			3.0 mg/L	EPA	Group 3
Chlorantraniliprole	500008-45-7			16 mg/L	DHS	N
Chlordane	57-74-9	2	2			B2
Chlorine	7782-50-5			4 mg/L	EPA	D
Chlorine dioxide	10049-04-4			800	EPA	D

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Chlorite	7758-19-2		1 mg/L			D
Chlorodifluoromethane (HCFC-22)	77-45-6	7 mg/L				-
Chloroethane (Ethyl chloride)	75-00-3	400				Group 3
Chloroform (Trichloromethane)	67-66-3	6	80 total *			L/N
Chloromethane	74-87-3	30				D
2-Chlorophenol	95-57-8			40	EPA	D
Chlorothalonil	1897-45-6			1.5	EPA	B2
Ortho-Chlorotoluene (2-Chlorotoluene)	95-49-8			100	EPA	D
Para-Chlorotoluene (4-Chlorotoluene)	106-43-4			100	EPA	D
Chlorpyrifos	2921-88-2	2				D
Chromium, total	7440-47-3	100	100			D
Chromium, hexavalent	18540-29-9			70 ng/L	DHS	L
Chrysene	218-01-9	0.2				B2
Clomazone (Dimethazone)	81777-89-1			430	DHS	-
Clothiandin	210880-92-5			1 mg/L	DHS	N
Cobalt	7440-48-4	40				Group 2B
Copper	7440-50-8	1.3 mg/L	1.3 mg/L (TTAL ^d)			D
Cyanazine	21725-46-2	1				-
Cyanide, free	57-12-5	200	200			D
Cyantraniliprole	736994-63-1			10	DHS	N
Dacthal (DCPA)	1861-32-1	70				C
Dacthal (DCPA) + MTP and TPA degradates	1861-32-1			70	DHS	C
	887-54-7 (MTP)					-
	2136-79-0 (TPA)					-
Dalapon	75-99-0		200			D
2,4-Diaminotoluene	95-80-7			0.01	DHS	
2,6-Diaminotoluene	823-40-5			300	DHS	
Diazinon	333-41-5			1	EPA	E
Dibromoacetic acid (Dibromoacetate)	10024-50-7		60 total **			-
Dibromochloromethane	124-48-1	60	80 total *			S
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	0.2	0.2			B2

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1,2-Dibromoethane (Ethylene dibromide/EDB)	106-93-4	0.05	0.05			L
Dibutyl phthalate	84-74-2	1,000				D
Dicamba	1918-00-9	300				N
Dichloroacetic acid	76-43-6		60 total **			L
1,2-Dichlorobenzene (o-Dichlorobenzene)	95-50-1	600	600			D
1,3-Dichlorobenzene (m-Dichlorobenzene)	541-73-1	600				D
1,4-Dichlorobenzene (p-Dichlorobenzene)	106-46-7	75	75			C
Dichlorodifluoromethane	75-71-8	1 mg/L				D
1,1-Dichloroethane	75-34-3	850				C
1,2-Dichloroethane	107-06-2	5	5			B2
1,1-Dichloroethylene	75-35-4	7	7			S
1,2-Dichloroethylene (cis)	156-59-2	70	70			D
1,2-Dichloroethylene (trans)	156-60-5	100	100			D
2,4-Dichlorophenol	120-83-2			20	EPA	E
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	70	70			D
1,2-Dichloropropane	78-87-5	5	5			B2
1,3-Dichloropropene (cis/trans)	542-75-6	0.4				L
Dicofol	115-32-2			1	DHS	Group 3
Dieldrin	60-57-1			0.002	EPA	B2
Di (2-ethylhexyl) adipate	103-23-1		400			C
Di (2-ethylhexyl) phthalate	117-81-7	6	6			B2
Diisopropyl methylphosphonate	1445-75-6			600	EPA	D
Dimethenamid/Dimethinamid-P	87674-68-8	50				-
	163515-14-8 (-P)					
Dimethrin	70-38-2			2 mg/L	EPA	D
Dimethoate	60-51-5	2				C
Dimethyl methylphosphonate	756-79-6			100	EPA	C
1,3-Dinitrobenzene	99-65-0			1	EPA	D
2,4-Dinitrotoluene	121-14-2	0.05				L
2,6-Dinitrotoluene	606-20-2	0.05				L

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Dinitrotoluene (DNT), Total Residues	25321-14-6	0.05				B2
Dinoseb	88-85-7	7	7			D
4,8-Dioxa-3H-perfluorononanoic acid (DONA)	919005-14-4			3	DHS	-
1,4-Dioxane (p-Dioxane)	123-91-1	3		0.35	DHS	L
Dioxin (2,3,7,8-TCDD)	1746-01-6	0.00003	0.00003			B2
Dioxins and Furans (Non 2,3,7,8)	-			0.00003 ^b	DHS	-
Diphenamid	957-51-7			200	EPA	D
Diquat	85-00-7		20			E
Disulfoton	298-04-4			0.7	EPA	E
1,4-Dithiane	505-29-3			80	EPA	D
Diuron	330-54-1			2	EPA	L
Endothall	145-73-3		100	50	EPA	N
Endrin	72-20-8	2	2			D
Eocine (Eosine OJ)	17372-87-1			5 mg/L	DHS	-
Epichlorohydrin	106-89-8		TT ^c	3	EPA	B2
EPTC (Eptam)	759-94-4	250				-
Ethylbenzene	100-41-4	700	700			D
Ethyl Ether (Diethyl Ether)	60-29-7	1,000				-
Ethylene glycol	107-21-1	14 mg/L				D
Ethylene Thiourea (ETU)	96-45-7			0.6	EPA	B2
Fenamiphos	22224-92-6			0.7	EPA	E
Flumetsulam	98967-40-9			10 mg/L	DHS	E
Fluometuron	2164-17-2			90	EPA	D
Fluoranthene	206-44-0	400				D
Fluorene	86-73-7	400				D
Fluoride	7681-49-4	4 mg/L	4 mg/L			-
Fluorotrichloromethane (Trichlorofluoromethane)	75-69-4	3.49 mg/L				D
Fomesafen	72178-02-0			25	DHS	N
Fonofos	944-22-9			10	EPA	D
Formaldehyde	50-00-0	1,000				B1

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Glyphosate	1071-83-6		700	10 mg/L	DHS	D
Glyphosate AMPA degradate	1066-51-9			10 mg/L	DHS	-
Gross alpha particle activity	-		15 pCi/L			A
Heptachlor	76-44-8	0.4	0.4			B2
Heptachlor epoxide	1024-57-3	0.2	0.2			B2
Hexachlorobenzene	118-74-1	1	1			B2
Hexachlorobutadiene	87-68-3			0.9	EPA	L
Hexachlorocyclopentadiene (HCCPD)	77-47-4		50			N
Hexachloroethane	67-72-1			1	EPA	C
Hexafluoropropylene oxide dimer acid (HFPO-DA; GenX)	13252-13-6			300 ng/L	DHS	S
n-Hexane	110-54-3	600				I
2-Hexanone	591-78-6			100	DHS	-
Hexazinone	51235-04-2			400	DHS	D
HMX	2691-41-0			400	EPA	D
Hydrogen sulfide	7783-06-4	30				-
Imidacloprid	138261-41-3			0.2	DHS	E
Indeno[1,2,3-CD]Pyrene	193-39-5			0.03	DHS	B2
Isophorone	78-59-1			100	EPA	C
Isopropyl methylphosphonate (IMPA)	1832-54-8			700	EPA	D
Isopropanol (Isopropyl alcohol)	67-63-0			3 mg/L	DHS	Group 3
Isoxaflutole + Isoxaflutole Diketonitrile (DKN)	141112-29-0			3	DHS	L
	143701-75-1 (DKN)					
Isoxaflutole Benzoic Acid (BA)	142994-06-7			800	DHS	-
Lead	7439-92-1	15	15 (TTAL ^d)			B2
Lindane (Gamma-hexachlorocyclohexane)	58-89-9	0.2	0.2			S
Malathion	121-75-5			500	EPA	S
Maleic hydrazide	123-33-1			4 mg/L	EPA	D
MCPA (2-Methyl-4-chlorophenoxyacetic acid)	94-74-6			30	EPA	N
Manganese	7439-96-5	300				D
Mercury	7439-97-6	2	2			D

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Metalaxyl	57837-19-1			800	DHS	E
Methacrylonitrile	126-98-7			1	DHS	-
Methanol	67-56-1	5 mg/L				-
Methomyl	16752-77-5			200	EPA	E
Methoxychlor	72-43-5	40	40			D
Methylene chloride (Dichloromethane)	75-09-2	5	5			B2
Methyl ethyl ketone (MEK)	78-93-3	4 mg/L				D
Methyl isobutyl ketone (MIBK)	108-10-1	500				D
Methyl parathion	298-00-0			1	EPA	N
4-Methylphenol (p-Cresol)	106-44-5			50	DHS	C
Methyl tert-butyl ether (MTBE)	1634-04-4	60				Group 3
Metolachlor/s-Metolachlor	51218-45-2	100				C
Metolachlor ethane sulfonic acid + oxanilic acid	171118-09-5 (ESA)	1.3 mg/L				-
(Metolachlor - ESA+OXA)	152019-73-3 (OXA)					
Metribuzin	21087-64-9	70				D
Molybdenum	7439-98-7	40		90	DHS	-
Monobromoacetic acid (Bromoacetic acid)	79-08-3		60 total **			-
Monochloroacetic acid	79-11-8		60 total **	70	EPA	I
Monochlorobenzene (Chlorobenzene)	108-90-7	100	100			D
Monuron	150-68-5			120	DHS	Group 3
Naphthalene	91-20-3	100				I
Nickel	7440-02-0	100	100			Group 2B
Nitrate (as N)	14797-55-8	10 mg/L	10 mg/L			-
Nitrate + Nitrite (as N)		10 mg/L	10 mg/L			-
Nitrite (as N)	14797-65-0	1 mg/L	1 mg/L			-
2-Nitroaniline	88-74-4			100	DHS	
3- and 4-Nitroaniline combined	99-09-2/100-01-6			2	DHS	
Nitrobenzene	98-95-3			0.35	DHS	D
Nitroguanidine	556-88-7			700	EPA	D
p-Nitrophenol	100-02-7			60	EPA	D
N-Nitrosodiphenylamine (NDPA)	86-30-6	7				B2

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<i>m</i> -Nitrotoluene (3-Nitrotoluene)	99-08-1			200	DHS	Group 3
<i>o</i> -Nitrotoluene (2-Nitrotoluene)	88-72-2			0.15	DHS	Group 3
<i>p</i> -Nitrotoluene (4-Nitrotoluene)	99-99-0			2	DHS	Group 3
Norflurazon	27314-13-2			15	DHS	C
Oxamyl (Vydate)	23135-22-0		200			N
Paraquat	4685-14-7			30	EPA	E
Pentachlorophenol (PCP)	87-86-5	1	1			B2
Perchlorate	14797-73-0	1				L/N
Perfluorobutanesulfonic acid (PFBS)	375-73-5			450	DHS	-
Perfluorobutanoic acid (PFBA)	375-22-4			10	DHS	-
Perfluorodecanoic acid (PFDA)	335-76-2			300 ng/L	DHS	-
Perfluorododecanoic acid (PFDoA)	307-55-1			500 ng/L	DHS	-
Perfluorohexanesulfonic acid (PFHxS)	355-46-4			40 ng/L	DHS	-
Perfluorohexanoic acid (PFHxA)	307-24-4			150	DHS	-
Perfluorononanoic acid (PFNA)	375-95-1			30 ng/L	DHS	-
Perfluorooctadecanoic acid (PFODA)	16517-11-6			400	DHS	-
Perfluorooctanoic acid (PFOA)	335-67-1 (PFOA)			20 ng/L	DHS	S
+ Perfluorooctane sulfonic acid (PFOS)	1763-23-1 (PFOS)					S
+ Perfluorooctane sulfonamide (FOSA)	754-91-6					-
+ N-Ethyl Perfluorooctane sulfonamide (NEtFOSA)	4151-50-2					-
+ N-Ethyl perfluorooctane sulfonamidoacetic acid (NEtFOSAA)	2991-50-6					-
+ N-Ethyl perfluorooctane sulfonamidoethanol (NEtFOSE)	1691-99-2					-
Perfluorotetradecanoic acid (PFTeA)	376-06-7			10	DHS	-
Perfluoroundecanoic acid (PFUnA)	2058-94-8			3	DHS	-
Phenol	108-95-2	2 mg/L				D
Phloxine B	18472-87-2			1.25 mg/L	DHS	-
Picloram	1918-02-1	500	500			D
Polychlorinated biphenyls (PCBs)	1336-36-3	0.03	0.5			B2
Prometon	1610-18-0	100				N

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Pronamide	23950-58-5			1	EPA	B2
Propachlor	1918-16-7			1	EPA	L
Propazine	139-40-2	10				N
Propham	122-42-9			100	EPA	D
Propylene glycol	57-55-6			25 mg/L	DHS	-
Pyrene	129-00-0	250				D
Pyridine	110-86-1	10				Group 3
Radium 226 + 228, Combined	7440-14-4		5 pCi/L			A
Radon	10043-92-2		300 pCi/L	1.5 pCi/L ^g	EPA	A
RDX	121-82-4			2	EPA	C
Saflufenacil	372137-35-4			460	DHS	N
Selenium	7782-49-2	50	50			D
Silver	7440-22-4	50				D
Simazine	122-34-9	4	4			N
Sodium	7440-23-5			20 mg/L ^h	DHS	-
Strontium	7440-24-6			1,500	DHS	D
Styrene	100-42-5	100	100			C
Sulfentrazone	122836-35-5			1,000	DHS	N
Tebuthiuron	34014-18-1			500	EPA	D
Terbacil	5902-51-2			90	EPA	E
Terbufos	13071-79-9			0.4	EPA	D
Tertiary Butyl Alcohol (TBA)	75-65-0	12				-
1,1,1,2-Tetrachloroethane (1,1,1,2-PCA)	630-20-6	70				C
1,1,2,2-Tetrachloroethane (1,1,2,2-PCA)	79-34-5	0.2				L
Tetrachloroethylene (PCE)	127-18-4	5	5	20	DHS	A
Tetrahydrofuran	109-99-9	50				-
Thallium	7440-28-0	2	2			I
Thiamethoxam	153719-23-4			120	DHS	N
Thiencarbazone-methyl	317815-83-1			10 mg/L	DHS	N
Toluene	108-88-3	800	1 mg/L			I
Toxaphene	8001-35-2	3	3			B2
Trichloroacetic acid	76-03-9		60 total **	20	EPA	S

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1,2,4-Trichlorobenzene	120-82-1	70	70			D
1,3,5-Trichlorobenzene	108-70-3			40	EPA	D
1,1,1-Trichloroethane (1,1,1-TCA)	71-55-6	200	200			I
1,1,2-Trichloroethane	79-00-5	5	5			C
Trichlorophenol	88-06-2			3	EPA	B2
Trichloroethylene (TCE)	79-01-6	5	5	0.5	DHS	A
2,4,5-Trichlorophenoxypropionic acid (2,4,5-TP/Silvex)	93-72-1	50	50			D
2,4,5-Trichlorophenoxyacetic acid (2,4,5-T)	93-76-5			70	EPA	D
1,2,3-Trichloropropane	96-18-4	60		0.3 ng/L	DHS	L
1,1,2-Trifluorotrchloroethane (CFC-113)	76-13-1			5.5 mg/L	DHS	-
Trifluralin	1582-09-8	7.5				C
Trimethylbenzenes (1,2,4- + 1,3,5- combined)	-	480				D
Trinitroglycerol (Nitroglycerin)	55-63-0			5	EPA	-
2,4,6-Trinitrotoluene	118-96-7			2	EPA	C
Turpentine	8006-64-2			100	DHS	-
Uranium	7440-61-1		30	40 pCi/L	DHS	A
Vanadium	7440-62-2	30				-
Vinyl chloride	75-01-4	0.2	0.2			H
White phosphorous	7723-14-0			0.1	EPA	D
Xylenes (Total: m-, o-, p- combined)	1330-20-7	2 mg/L	10 mg/L			I
Zinc	7440-66-6			2 mg/L	EPA	I

CAS Registry Number = Chemical Abstracts Service (CAS) Registry Number

NR 140 Public Health ES = s. NR 140.10, Wis. Adm. Code, public health related groundwater quality Enforcement Standard (ES)

NR 809 MCL = ch. NR 809, Wis. Adm. Code, Maximum Contaminant Level (MCL)

WI DHS/US EPA Lifetime HAL/CR = United States Environmental Protection Agency (US EPA) or Wisconsin Dept. of Health Services (WI DHS) established lifetime health advisory level (HAL) or estimated 10⁻⁶ cancer risk (CR)

US EPA/IARC Cancer Class/Group = United States Environmental Protection Agency (US EPA) or International Agency for Research on Cancer (IARC) cancer classification or group

Table I - Drinking Water & Groundwater Quality Health Standards/Advisory Levels

Footnotes:

* the MCL for total trihalomethanes (TTHM) = 80 ug/L

** the MCL for Haloacetic Acids (five)/HAA5 (sum of the concentrations of monochloroacetic acid, dichloroacetic acid, trichloroacetic acid, monobromoacetic acid and dibromoacetic acid) = 60 ug/L

*** the HAL established by the WI DHS for the sum of the 5 aminonitrotoluene isomers: 2-Amino-3-Nitrotoluene, 2-Amino-4-Nitrotoluene, 2-Amino-6-Nitrotoluene, 4-Amino-2-Nitrotoluene and 4-Amino-3-Nitrotoluene = 4 ug/L

^a Federal MCL for any combination of two or more of Aldicarb, Aldicarb Sulfone and Aldicarb Sulfoxide should not exceed 7ug/L

^b compare detected concentrations of "non-2,3,7,8 Dioxins and Furans" to the NR 140 groundwater quality standard for 2,3,7,8-TCDD multiplied by established toxicity equivalency factor (TEF) for that specific Dioxin or Furan congener

^c TT = treatment techniques, in accordance with s. NR 809.26(5), Wis. Adm. Code

^d TTAL = treatment technique action level - the concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system must follow

^e carcinogenicity based on inhalation exposure

^f Atrazine, total chlorinated residue includes atrazine and its metabolites: diaminoatrazine, diethylatrazine and deisopropylatrazine

^g Radon: US EPA estimated 10^{-4} cancer risk = 150 pCi/L; US EPA MCL = 300 pCi/L, Alternate Maximum Contaminant Level = 4,000 pCi/L

^h Sodium: WI DHS recommends that people that are on a low sodium or "no salt" diet avoid drinking water with sodium levels over 20 mg/L

Units:

ng/L = nanograms per liter

ug/L = micrograms per liter

mg/L = milligrams per liter

MFL = million fibers per liter (fibers > 10 microns length)

pCi/L = picocuries per liter

millirem/year = millirem radiation dose per year

US EPA Cancer Classification:

H = Carcinogenic to humans

L = Likely to be carcinogenic to humans

L/N = Likely to be carcinogenic above a specified dose but not likely to be carcinogenic below that dose

S = Suggestive evidence of carcinogenic potential

I = Inadequate information to assess carcinogenic potential

N = Not likely to be carcinogenic to humans

US EPA Cancer Group:

A = Human carcinogen

B1 = Probable human carcinogen: limited human evidence

B2 = Probable human carcinogen: sufficient evidence in animals and inadequate or no evidence in humans

C = Possible human carcinogen

D = Not classifiable as to human carcinogenicity

E = Evidence of noncarcinogenicity for humans

International Agency for Research on Cancer (IARC) Cancer Classification:

Group 1 = Carcinogenic to humans

Group 2A = Probably carcinogenic to humans

Group 2B = Possibly carcinogenic to humans

Group 3 = Not classifiable as to carcinogenicity to humans

Group 4 = Probably not carcinogenic to humans

Table II - Drinking Water & Groundwater Quality Public Welfare/Secondary Standards

Substance	CAS Registry Number	NR 140 Public Welfare ES (ug/L except as noted)	NR 809 Secondary Standard (ug/L except as noted)
Aluminum	7429-90-5		50 to 200
Chloride	7647-14-5	250 mg/L	250 mg/L
Color	-	15 color units	15 color units
Copper	7440-50-8		1.0 mg/L
Corrosivity	-		Noncorrosive
Fluoride	7681-49-4		2.0 mg/L
Foaming Agents MBAS# (Methylene-Blue Active Substances)	-	500	500
Hydrogen Sulfide	7783-06-4		Not Detectable
Iron	7439-89-6	300	300
Manganese	7439-96-5	50	50
Odor	-	3 TON	3 TON
Silver	7440-22-4		100
Sulfate	7757-82-6	250 mg/L	250 mg/L
Total Residue##	-		500 mg/L
Zinc	7440-66-6	5 mg/L	5 mg/L

CAS Registry Number = Chemical Abstracts Service (CAS) Registry Number

NR 140 Public Welfare ES = s. NR 140.12, Wis. Adm. Code, public welfare related groundwater quality Enforcement Standard (ES)

NR 809 Secondary Standard = s. NR 809.60, Wis. Adm. Code, secondary inorganic chemical or physical standard established for substances which may adversely affect the cosmetic or aesthetic quality of drinking water

Footnotes:

Foaming Agents (MBAS) = measure of the concentration of anionic surfactants [Methylene-Blue Active Substances (MBAS)] in water utilizing the Methylene Blue Test

Total Residue = measure of total dissolved solids (TDS) concentration

Units:

ug/L = micrograms per liter

mg/L = milligrams per liter

color units = color units on standard cobalt scale

TON = Threshold Odor Number (TON), measure of dilution factor required before odor is minimally perceptible