EPA REGION 8
LIST OF MCLS RECOMMENDED FOR ADOPTION INTO STATE/TRIBAL WATER QUALITY STANDARDS
TO PROTECT THE WATER SUPPLY DESIGNATED USE
January 2009

All concentrations expressed as ug/l, except where noted.

Chemical Name	CASRN	**SDWA MCL**	SDWA MCLG	CWA § 304(a) Water & Org(1)	Adopted Water Supply Criterion: CO	MT	ND	SD	UT	WY	CSKT	FTPECK	Potential Health Effects from Ingestion of Water (2)
PRIORITY POLLUTANTS													
Beryllium	7440-41-7	**4**	4	-	4	4	4	4	4	4	4	4	Intestinal lesions
Cadmium	7440-43-9	**5**	5	-	5	5	5	5	10	5	5	5	Kidneys
Chlorobenzene	108-90-7	**100**	100	130 (20#)	100	100	100	130	100	100	100	20	Liver, kidneys
Chromium (total)	7440-47-3	**100**	100	-	50	100	100	100	50	100	100	100	Allergic dermatitis
1,1-Dichloroethylene	75-35-4	(4)	(4)	330	7	0.57	7	330	7	330	330	0.57	Liver
Dichloroethylene (1,2-trans)	156-60-5	**100**	100	140	100	100	100	140	100	100	100	100	Liver
Lead	7439-92-1	TT(5)	zero	-	50	15	15	(3)	15	15	15	15	Physical/mental development (children), kidneys, high blood pressure (adults)
Lindane	58-89-9	**0.2**	0.2	0.98	0.2	0.2	0.2	0.98	0.2	0.2	0. 98	0.019	Liver, kidneys
Nickel	7440-02-0	(6)	(6)	610	100	100	100	610 (3)	100	100	100	100	Heart, liver (7)
Selenium	7782-49-2	**50**	50	170	50	50	50	(3)	50	50	50	50	Hair, fingernails, numbness, circulatory sytem
Toluene	108-88-3	**1000**	1000	1,300	1000	1000	1000	1300	1000	1000	1000	1000	Nervous system, kidneys, liver
1,1,1-Trichloroethane	71-55-6	**200**	200	-	200	200	200	200	200	200	200	200	Liver, nervous system, circulatory system
NON-PRIORITY POLLUTANTS													
Alachlor	15972-60-8	**2**	zero	-	2	2	2	-	2	2	2	2	Eye, liver, kidneys, spleen, anemia, cancer
Atrazine	1912-24-9	**3**	3	-	3	3	3	-	3	3	3	3	Cardiovascular system, reproductive system
Bromate	7789-38-0	**10**	zero	-	0.05	-	10	-	10	-	-	-	Cancer
Carbofuran	1563-66-2	**40**	40	-	40	40	40	-	40	40	40	40	Blood, nervous system, reproductive system
Chlorite	7758-19-2	**1,000**	800	-	-	-	1000	-	1000	-	-	-	Anemia; infants/young children: nervous system
Dalapon	75-99-0	**200**	200	-	200	200	200	-	200	200	200	200	Kidneys
Di(2-ethylhexyl)adipate	103-23-1	**400**	400	-	400	300	400	-	400	400	400	400	Weight loss, liver, reproductive system
Dibromochloropropane	96-12-8	**0.2**	zero	-	0.2	0.2	0.2	-	0.2	0.2	0.2	0.2	Reproductive system, cancer
Dichloroethylene (cis-1,2-)	156-59-2	**70**	70	-	70	70	70	-	70	70	70	70	Liver
2,4-Dichlorophenoxyacetic acid (2,4-D)	94-75-7	**70**	70	100 rb	70	70	70	-	70	70	100	400	Kidneys, liver, adrenal glands
Dinoseb	88-85-7	**7**	7	-	7	7	7	-	7	7	7	7	Reproductive system
Diquat	85-00-7	**20**	20	-	20	20	20	-	20	20	20	20	Cataracts

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Endothall	145-73-3	**100**	100	-	100	100	100	-	100	100	100	100	Stomach, intestines
Ethylene dibromide (EDB)	106-93-4	**0.05**	zero	-	0.05	0.004	0.05	-	0.05	0.05	0.05	0.05	Liver, stomach, reproductive system, kidneys, cancer
Fluoride	7782-41-4	**4,000**	4,000	-	2000	4000	4000	4000	(9)	2000	4000	4000	Bone disease; children: mottled teeth
Glyphosate	1071-83-6	**700**	700	-	700	700	700	-	700	700	700	700	Kidneys, reproductive system
Haloacetic acids (10)	various	**60**	-	-	-	-	60	-	60	-	-	-	Cancer
Methoxychlor	72-43-5	**40**	40	100 rb	40	40	40	-	40	40	40	40	Reproductive system
Nitrite	14797-65-0	**1,000**	1,000	-	1000	1000	1000	-	-	1000	1000	1000	Methemoglobulinemia
Oxamyl (Vydate)	23135-22-0	**200**	200	-	200	200	200	-	200	200	200	200	Nervous system
Picloram	1918-02-1	**500**	500	-	500	500	500	-	500	500	500	500	Liver
Simazine	122-34-9	**4**	4	-	4	4	4	-	4	4	4	4	Blood
Styrene	100-42-5	**100**	100	-	100	100	100	-	100	100	100	100	Liver, kidneys, circulatory system
Xylenes	1330-20-7	**10,000**	10,000	-	10000	10000	10000	-	1000	10000	10000	10000	Nervous system
RADIONUCLIDES													
Gross alpha particle activity		**15** pCi/L	zero	-	-	1.5 pCi/L	15 pCi/L	-	15 pCi/L	15 pCi/L	15 pCi/L	15 pCi/L	Cancer
Beta particle and photon activity		**4** mrem/y	zero	-	-	0.4 mrem/y	4 mrem/y	-	4 mrem/y	4 mrem/y	4 mrem/y	4 mrem/y	Cancer
Combined Radium 226 & 228	7440-14-4	**5** pCi/L	zero	-	5 pCi/L	5 pCi/L	5 pCi/L	5 pCi/L(11)	5 pCi/L	5 pCi/L	5 pCi/L	20 pCi/L	Cancer
Uranium	7440-61-1	**30**	zero	-	30	30	30	-	30	30	-	30 pCi/L	Cancer, kidneys

BACKGROUND AND NOTES

This document contains an updated version of the Region's list of Safe Drinking Water Act (SDWA) Maximum Contaminant Limits (MCLs) recommended for adoption into State and Tribal Clean Water Act water quality standards. We recommend adoption of these MCLs as numeric criteria to protect the water supply designated use. Three previous versions of this list were distributed in 1996, 1999, and 2004. The Region continues to recommend use of the current CWA § 304(a) "water & organisms" human health criteria as the primary source of information for reviewing and revising State and Tribal water quality standards to protect the water supply designated use. However, for some substances the current CWA § 304(a) human health criterion is less stringent than the MCL. For other substances, an MCL has been promulgated, but no CWA § 304(a) criterion is available. In either case, if the State or Tribe has not already done so, a criterion equal to (or more stringent than) the MCL should be adopted to protect the water supply designated use.

The Region believes that this approach will improve the level of public health protection provided by State and Tribal water quality standards. Adoption of the identified MCLs as ambient water quality criteria will help to:

- reduce the likelihood that source waters for public water systems will degrade to levels that exceed an MCL and cause public water system noncompliance problems,
- avoid potential adverse health effects associated with long-term consumption of water containing concentrations in excess of the MCL,
- assess water quality conditions and establish protective discharge limitations for point source discharges where appropriate, and
- ensure that numeric criteria are available when needed for all substances which are regulated under the SDWA or addressed by CWA § 304(a) human health criteria.

Notes:

(1) This column shows current published CWA § 304(a) human health criteria, which typically assume consumption of 2 liters of water and 17.5 grams of aquatic organisms per day. Values for carcinogens are calculated at a 10^{-6} incremental risk level.

(2) The potential health effects are based on consumption of water containing pollutant concentrations that exceed the MCL, in most cases, over many years. The listed effects are consistent with those that drinking water systems must disclose to the public, on an annual basis, where MCLs have been exceeded during the year covered by the report. See 63 Federal Register 44512-44536, 40 CFR Parts 141 and 142, National Primary Drinking Water Regulation: Consumer Confidence Reports, Final Rule, August 19, 1998.

(3) South Dakota has adopted an aquatic life criterion that will also protect water supply uses.

(4) For 1,1-dichloroethylene, the CWA § 304(a) "water & organisms" criterion was revised from 0.057 ug/L to 330 ug/L consistent with the 2000 CWA Section 304(a) human health methodology and the revised risk assessment which has been added to the Agency's Integrated Risk Information System (IRIS). The MCL and MCLG, however, remain at 7 ug/L; this value is based on the old EPA risk assessment. In the future, the MCL and MCLG will be reviewed and revised based on the updated risk assessment. Because of differences in how drinking water standards and § 304(a) criteria are calculated, it is expected that the revised MCL/MCLG, based on the new reference dose (0.05 mg/kg-day), will be 30-40 ug/L. Because it is likely to remain unchanged for a few years, it may be appropriate to adopt (or retain) the 7 ug/L MCL as a water supply criterion.

(5) For lead, the MCL requires a Treatment Technology; however, the action level is 15 ug/l.

(6) In early 1995, the nickel MCLG and MCL of 100 ug/l were remanded, based on an agreement between EPA and the Nickel Development Institute (and other industry parties). It was agreed that EPA had not fully addressed in the public record the petitioner's comments on the proposed methodology for deriving the nickel MCLG. To provide guidance for the period prior to new regulations for nickel, the EPA issued a lifetime health advisory for nickel of 100 ug/l. Nickel is included on the Agency's contaminant candidate list (CCL) to signify the Agency's intention to complete regulatory action for this contaminant.

(7) Potential health effects for nickel are taken from *Is Your Drinking Water Safe?*, EPA 810-F-94-002, May, 1994.

(8) Wyoming has adopted the latest MCLs for radionuclides by narrative reference.

(9) Utah's fluoride criterion ranges from 1400-2400 ug/l, and varies as a function of the daily maximum mean air temperature.

(10) The MCL is for a total measurement of 5 haloacetic acids: dichloroacetic acid, trichloroacetic acid, monochloroacetic acid, bromoacetic acid, and dibromoacetic acid.

(11) The South Dakota radium criterion is for radium 226 only.

# Indicates § 304(a) criteria which are based on organoleptic (taste and odor) effects. Organoleptic-based criteria were recommended in the 1980 CWA § 304(a) criteria documents either where the organoleptic endpoint resulted in a more stringent value than the toxicity-based endpoint or where there were not sufficient data to calculate a toxicity-based criterion. Adoption of these criteria may be appropriate to ensure full protection of designated and existing uses.

rb The § 304(a) criteria for 2,4-D and methoxychlor were included in EPA's Red Book, *Quality Criteria for Water*, 1976.

Acronyms:

CASRN	Chemical Abstracts Service Registry Number
CSKT	Confederated Salish and Kootenai Indian Tribes of the Flathead Indian Reservation
CWA	Clean Water Act
FTPECK	Assiniboine and Sioux Tribes of the Fort Peck Indian Reservation
MCL	Maximum Contaminant Limit
MCLG	Maximum Contaminant Limit Goal
SDWA	Safe Drinking Water Act