333-061-0030

Maximum Contaminant Levels and Action Levels

(1) MCLs and action levels (ALs) for inorganic chemicals apply to all community and NTNC water systems and are listed in Table 1, except the MCL for fluoride which applies only to community water systems and the MCL for nitrate which applies to all water systems.

Table 1

Contaminant	MCL/AL in mg/l
Antimony	0.006
Arsenic	0.010
Asbestos[1]	7 MFL
Barium	2
Beryllium	0.004
Cadmium	0.005
Chromium	0.1
Copper[2]	1.3
Cyanide	0.2
Fluoride	4.0
Lead[2]	0.015
Mercury	0.002
Nitrate (as N)	10
Nitrite (as N)	1
Total Nitrate + Nitrite (as N)	10
Selenium	0.05
Thallium	0.002

1 MFL = million fibers per liter longer than 10 µm

2 Action Level (AL)

(a) Compliance with the MCLs for inorganic contaminants is calculated pursuant to OAR 333-061-0036(2)(h).

(b) Exceeding the secondary contaminant level for fluoride as specified in section (6) of this rule requires a special public notice as specified in OAR 333-061-0042(7).

(c) The lead action level is exceeded if the concentration of lead in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with OAR 333-061-0036(10)(a) through (e) is greater than 0.015 mg/L (that is, if the "90th percentile" lead level is greater than 0.015 mg/L). The copper action level is exceeded if the concentration of copper in more than 10 percent of tap water samples collected during any monitoring period conducted in accordance with OAR 333-061-0036(10)(a) through (e) is greater than 1.3 mg/L (that is, if the "90th percentile" copper level is greater than 1.3 mg/L).

(A) The 90th percentile lead and copper levels shall be computed as follows: The results of all lead or copper samples taken during a monitoring period shall be placed in ascending order from the sample with the lowest

concentration to the sample with the highest concentration. Each sampling result shall be assigned a number, ascending by single integers beginning with the number 1 for the sample with the lowest contaminant level. The number assigned to the sample with the highest contaminant level shall be equal to the total number of samples taken. The number of samples taken during the monitoring period shall be multiplied by 0.9. The contaminant concentration in the numbered sample yielded by this calculation is the 90th percentile contaminant level.

(B) For water systems serving fewer than 100 people that collect five samples per monitoring period, the 90th percentile is computed by taking the average of the highest and second highest concentrations. For a water system allowed by the Authority to collect fewer than five samples the sample result with the highest concentration is considered the 90th percentile value.

(2) MCLs for organic chemicals:

(a) The MCLs for synthetic organic chemicals are shown in Table 2 and apply to all community and NTNC water systems. Compliance with MCLs shall be calculated pursuant to OAR 333-061-0036(3)(a)(H) and (I).

Table 2

Contaminant	MCL in mg/l
Alachlor	0.002
Atrazine	0.003
Benzo(a) pyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
Dalapon	0.2
Dibromochloropropane	0.0002
Dinoseb	0.007
Dioxin(2,3,7,8-TCDD)	0.00000003
Diquat	0.02
Di(2-ethylhexyl) adipate	0.4
Di(2-ethylhexyl) phthalate	0.006
Endothall	0.1
Endrin	0.002
Ethylene Dibromide	0.00005
Glyphosate	0.7
Heptachlor	0.0004
Heptachor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04

Oxamyl(Vydate)	0.2
Picloram	0.5
Polychlorinated Biphenyls	0.0005
Pentachlorophenol	0.001
Simazine	0.004
Toxaphene	0.003
2,4-D	0.07
2,4,5-TP Silvex	0.05

(b) The MCLs for disinfection byproducts are shown in Table 3 and apply to all community and NTNC water systems that add a disinfectant (oxidant) to the water supply at any point in the treatment process or deliver water in which a disinfectant has been added to the water supply.

Table 3

Disinfection Byproduct	MCL in mg/l
TTHM	0.080
HAA5	0.060
Bromate	0.010
Chlorite	1.0

(A) Compliance with the MCLs for TTHM and HAA5 shall be calculated as a LRAA according to OAR 333-061-0036(4)(c).

(B) Compliance with the MCL for bromate shall be calculated as a running annual average pursuant to OAR 333-061-0036(4)(h).

(C) Compliance with the MCL for chlorite shall be calculated as a running annual average pursuant to OAR 333-061-0036(4)(g).

(c) The MCLs for volatile organic chemicals are indicated in Table 4 and apply to all community and NTNC water systems. Compliance with MCLs shall be calculated pursuant to OAR 333-061-0036(3)(b)(H) and (I).

Table 4

Contaminant	MCL in mg/l
Benzene	0.005
Carbon tetrachloride	0.005
cis-1,2-Dichloroethylene	0.07
Dichloromethane	0.005
Ethylbenzene	0.7
Monochlorobenzene	0.1
o-Dichlorobenzene	0.6
p-Dichlorobenzene	0.075
Styrene	0.1
Tetrachloroethylene(PCE)	0.005
Toluene	1
trans-1,2-Dichloroethylene	0.1
Trichloroethylene (TCE)	0.005

Vinyl chloride	0.002
Xylenes(total)	10
1,1-Dichloroethylene	0.007
1,1,1-Trichloroethane	0.2
1,1,2-Trichloroethane	0.005
1,2-Dichloroethane	0.005
1,2-Dichloropropane	0.005
1,2,4-Trichlorobenzene	0.07

(d) When the Authority has reason to believe that a water supply has been contaminated by a toxic organic chemical, it will determine whether a public health hazard exists and whether control measures must be carried out;

(e) The Authority may establish MCLs for additional organic chemicals as deemed necessary when there is reason to suspect that the use of those chemicals will impair water quality to an extent that poses an unreasonable risk to the health of the water users;

(f) Persons who apply pesticides within watersheds above surface water intakes of public water systems shall comply with federal and state pesticide application requirements. (Safe Drinking Water Act (EPA), Clean Water Act (EPA), Federal Insecticide, Fungicide and Rodenticide Act (EPA), ORS 536.220 to 536.360 (Water Resources), 468B.005 (DEQ), 527.610 to 527.990 (DOF), 634.016 to 634.992 (Department of Agriculture)). Any person who has reasonable cause to believe that his or her actions have led to organic chemical contamination of a public water system shall report that fact immediately to the water supplier.

(3) MCLs for turbidity are applicable to all public water systems using surface water sources or groundwater sources under the direct influence of surface water in whole or in part. Compliance with MCLs shall be calculated pursuant to OAR 333-061-0036(5).

(a) Turbidity at water systems where filtration treatment is not provided cannot exceed 5 NTU in representative samples of the source water immediately prior to the first or only point of disinfectant application unless:

(A) The Authority determines that any such event was caused by circumstances that were unusual and unpredictable; and

(B) As a result of any such event, there have not been more than two such events in 12 months when water was served to the public, or more than five events in 120 months the system served water to the public, in which the turbidity level exceeded 5 NTU. An "event" is a series of consecutive days during which at least one turbidity measurement each day exceeds 5 NTU. Turbidity measurements must be collected as required by OAR 333-061-0036(5)(a)(B).

(b) The MCLs for turbidity in drinking water, measured at a point representing filtered water prior to any storage, are as follows:

(A) Conventional filtration treatment or direct filtration treatment.
  (i) At water systems where conventional filtration or direct filtration treatment is used, the turbidity level of representative samples of a system's filtered water, measured as soon after filtration as possible and prior to any storage, must be less than or equal to 0.3 NTU in at least 95 percent of the measurements taken each month, measured as specified in OAR 333-061-0036(5).
  (ii) At water systems where conventional filtration or direct filtration treatment is used, the turbidity level of representative samples of a system's filtered water, measured as soon after filtration as possible and prior to any storage, must at no time exceed 1 NTU measured as specified in OAR 333-061-0036(5).

(B) Slow sand filtration.
  (i) At water systems where slow sand filtration is used, the turbidity level of representative samples of filtered water, measured as soon after filtration as possible and prior to any storage, must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in OAR 333-061-0036(5)(b), except that if the Authority determines there is no significant interference with disinfection at a higher turbidity level, the Authority may substitute this higher turbidity limit for that system.
  (ii) The turbidity level of representative samples of filtered water must at no time exceed 5 NTU, measured as specified in OAR 333-061-0036(5)(b).

(C) Diatomaceous earth filtration.
  (i) At water systems where diatomaceous earth filtration is used, the turbidity level of representative samples of filtered water, measured as soon after filtration as possible and prior to any storage, must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month, measured as specified in OAR 333-061-0036(5)(b).
  (ii) The turbidity level of representative samples of filtered water must at no time exceed 5 NTU, measured as specified in OAR 333-061-0036(5)(b).

(D) Other filtration technologies. At water systems where filtration technologies other than those listed in paragraphs (3)(b)(A) through (C) of this rule are used, the turbidity level must be less than or equal to 1 NTU in at least 95 percent of the measurements taken each month and at no time exceed 5 NTU, as specified in OAR 333-061-0036(5)(b)(A). The Authority may substitute a lower turbidity value(s) if it is determined that the above limit(s) cannot achieve the required level of treatment. The water supplier must demonstrate to the Authority that the alternative

filtration technology in combination with disinfection treatment as specified in OAR 333-061-0032 and monitored as specified by OAR 333-061-0036 consistently achieves 99.9 percent removal or inactivation of *Giardia lamblia* cysts and 99.99 percent removal or inactivation of viruses, and 99 percent removal of *Cryptosporidium* oocysts.

(4) The MCL for *E. coli* applies to all public water systems as specified in this section.

(a) A water system exceeds or violates the MCL for *E. coli* if any of the conditions identified in paragraphs (4)(a)(A) through (4)(a)(D) of this rule occur.

(A) An *E. coli*-positive repeat sample follows a total coliform-positive routine sample.

(B) A total coliform-positive repeat sample follows an *E. coli*-positive routine sample.

(C) All required repeat samples are not collected following an *E. coli*-positive routine sample.

(D) Any repeat sample is not analyzed for *E. coli* when it tests positive for total coliform.

(b) Exceeding the MCL for *E. coli* may pose an acute risk to health and requires the distribution of public notification as specified in OAR 333-061-0042.

(5) MCLs for radionuclides are applicable only to community water systems and are indicated in Table 5:

Table 5

Contaminant	MCL
Gross Alpha (including Radium-226 but not Radon and Uranium)	15 pCi/L
Combined Radium-226 and Radium-228	5 pCi/L
Uranium	30 µg/L
Beta/Photon emitters	4 mrem/yr

(a) The average annual concentration of beta particle and photon radioactivity from man-made sources, including all radionuclides emitting beta particles or photons listed in Maximum Permissible Body Burdens and Maximum Permissible Concentration of Radionuclides in Air or Water for Occupational Exposure, National Bureau of Standards Handbook 69, except the daughter products of Thorium-232, Uranium-235 and Uranium-238, shall not produce an annual dose equivalent to the total body or any internal organ greater than 4 millirem per year. If two or more radionuclides are present, the sum total of their annual dose equivalent to the total body or to any organ shall not exceed 4 mrem/year.

(A) The average annual concentration of tritium assumed to produce a total body dose of 4 mrem/year is 20,000 pCi/L;

(B) The average annual concentration of strontium-90 assumed to produce a bone marrow dose of 4 mrem/year is 8 pCi/L.

(b) Compliance with the MCLs shall be calculated pursuant to OAR 333-061-0036(7)(c).

(6) Contaminant levels for secondary contaminants are applicable to all public water systems. These are indicated in Table 6. (Also note OAR 333-061-0036(8)).

Table 6

Secondary Contaminant:	Level in mg/l where applicable
Color	15 color units
Corrosivity	Non-corrosive
Foaming agents	0.5
PH	6.5-8.5
Hardness (as CaCO3)	250
Odor	3 threshold odor number
Total dissolved solids(TDS)	500
Aluminum	0.05-0.2
Chloride	250
Copper	1
Fluoride	2.0
Iron	0.3
Manganese	0.05
Silver	0.1
Sulfate	250
Zinc	5

(a) Exceeding the secondary contaminant level for fluoride requires a special public notice as specified in OAR 333-061-0042(7).

(b) Exceeding the MCL for fluoride as specified in section (1) of this rule requires public notification as specified in OAR 333-061-0042(2)(b)(A).

(7) Acrylamide and Epichlorohydrin. For every public water system, the water supplier must certify annually to the state in writing, using third party certification approved by the state or manufacturer's certification, that when acrylamide and epichlorohydrin are used in drinking water systems, the combination, or product, of dose and monomer level does not exceed the levels specified as follows:

(a) Acrylamide: 0.05 percent dosed at 1 ppm or equivalent.

(b) Epichlorohydrin: 0.01 percent dosed at 20 ppm or equivalent.

Stat. Auth.: ORS 448.131
Stats. Implemented: ORS 448.131, 448.150 & 448.273

333-061-0031
Maximum Residual Disinfectant Levels

MRDLs are enforceable in the same manner as maximum contaminant levels and are specified in Table 7:

Table 7

Disinfectant Residual:	MRDL in mg/l:
Chlorine	4.0 (as Cl_2)
Chloramines	4.0 (as Cl_2)
Chlorine dioxide	0.8 (as ClO_2)

The MRDL for chlorine and chloramines shall be calculated as a running annual average according to OAR 333-061-0036(4)(i). The MRDL for chlorine dioxide is determined by follow-up monitoring according to OAR 333-061-0036(4)(i).

Stat. Auth.: ORS 448.131
Stats. Implemented: ORS 448.131, 448.150 & 448.273