

# **61-58.12**

## **Consumer Confidence Reports**

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## **A. Applicability.**

(1) This regulation establishes the minimum requirements for the content of annual reports that community water systems shall deliver to their customers. These reports shall contain information on the quality of the water delivered by the systems and characterize the risks (if any) from exposure to contaminants detected in the drinking water in an accurate and understandable manner. This regulation shall apply only to community water systems.

(2) For the purpose of this regulation, customers are defined as billing units or service connections to which water is delivered by a community water system.

(3) For the purpose of this regulation, detected means: at or above the levels prescribed in R.61-58.5, Maximum Contaminant Levels in Drinking Water.

## **B. Effective Dates.**

(1) Each existing community water system shall deliver its first report by October 19, 1999, its second report by July 1, 2000, and subsequent reports by July 1 annually thereafter. The first report shall contain data collected during, or prior to, calendar year 1998 as prescribed in Section C. below. Each report thereafter shall contain data collected during, or prior to, the previous calendar year.

(2) A new community water system shall deliver its first report by July 1 of the year after its first full calendar year in operation and annually thereafter.

(3) A community water system that sells water to another community water system shall deliver the applicable information required in Section C below, to the buyer system:

(a) No later than April 19, 1999, by April 1, 2000, and by April 1 annually thereafter or

(b) On a date mutually agreed upon by the seller and the purchaser, and specifically included in a contract between the parties.

## **C. Content of the Reports.**

(1) Each community water system shall provide to its customers an annual report that contains the information specified in this section and Section D below.

(2) Information on the source of the water delivered:

(a) Each report shall identify the source(s) of the water delivered by the community water system by providing information on:

(i) The type of the water: e.g., surface water, ground water; and

(ii) The commonly used name (if any) and location of the body (or bodies) of water.

(b) If a source water assessment has been completed, the report shall notify consumers of the availability of this information and the means to obtain it. In addition, systems are encouraged to highlight in the report significant sources of contamination in the source water area if they have readily available information. Where a system has received a source water assessment from the Department, the report shall

include a brief summary of the system's susceptibility to potential sources of contamination, using language provided by the Department or written by the operator.

(3) Definitions.

(a) Each report shall include the following definitions:

(i) Maximum Contaminant Level Goal or MCLG: The level of a contaminant in drinking water below which there is no known or expected risk to health. MCLGs allow for a margin of safety.

(ii) Maximum Contaminant Level or MCL: The highest level of a contaminant that is allowed in drinking water. MCLs are set as close to the MCLGs as feasible using the best available treatment technology.

(b) A report for a community water system operating under a variance or an exemption issued under R. 61-58.9, Variances and Exemptions, shall include the following definition: Variances and Exemptions: the Department or EPA permission not to meet an MCL or a treatment technique under certain conditions.

(c) A report which contains data on a contaminants that the Department regulates using any of the following terms must include the applicable definitions:

(i) Treatment Technique: A required process intended to reduce the level of a contaminant in drinking water.

(ii) Action Level: The concentration of a contaminant which, if exceeded, triggers treatment or other requirements which a water system shall follow.

(iii) Maximum residual disinfectant level goal or MRDLG: The level of a drinking water disinfectant below which there is no known or expected risk to health. MRDLGs do not reflect the benefits of the use of the disinfectants to control microbial contaminants.

(iv) Maximum residual disinfectant level or MRDL: The highest level of a disinfectant allowed in drinking water. There is convincing evidence that addition of a disinfectant is necessary for control of microbial contaminants.

(d) A report that contains information regarding a Level 1 or Level 2 Assessment required under R.61-58.17 must include the applicable definitions:

(i) Level 1 Assessment: A Level 1 Assessment is a study of the water system to identify potential problems and determine (if possible) why total coliform bacteria have been found in our water system.

(ii) Level 2 Assessment: A Level 2 Assessment is a very detailed study of the water system to identify potential problems and determine (if possible) why an E. coli MCL violation has occurred and/or why total coliform bacteria have been found in our water system on multiple occasions.

(4) Information on Detected Contaminants.

(a) This sub-section specifies the requirements for information to be included in each report for contaminants subject to mandatory monitoring (except Cryptosporidium). It applies to:

(i) Contaminants subject to an MCL, action level, maximum residual disinfectant level or treatment technique (regulated contaminants);

(ii) Contaminants for which monitoring is required by R.61-58.5.T, Special Monitoring for Inorganic and Organic Contaminants (unregulated contaminants); and

(iii) Disinfection by-products or microbial contaminants for which monitoring is required by Secs. 141.142 and 141.143 (Information Collection Rule for disinfection by-products (DBP) and Microbials (ICR)), of the National Primary Drinking Water Regulations (NPDWR), and which are detected in the finished water.

(b) The data relating to these contaminants shall be displayed in one table or in several adjacent tables. Any additional monitoring results which a community water system chooses to include in its report shall be displayed separately.

(c) The data shall be derived from data collected to comply with EPA and Department monitoring and analytical requirements during calendar year 1998 for the first report and subsequent calendar years thereafter except that:

(i) Where a system is allowed to monitor for regulated contaminants less often than once a year, the table(s) shall include the date and results of the most recent sampling and the report shall include a brief statement indicating that the data presented in the report are from the most recent testing done in accordance with the regulations. No data older than 5 years need be included.

(ii) Results of monitoring in compliance with the ICR (Secs. 141.142 and 141.143 of the NPDWR), need only be included for 5 years from the date of last sample or until any of the detected contaminants becomes regulated and subject to routine monitoring requirements, whichever comes first.

(d) For detected regulated contaminants (listed in Appendix D to this regulation), the table(s) shall contain:

(i) The MCL for that contaminant expressed as a number equal to or greater than 1.0 (as provided in Appendix D to this regulation);

(ii) The MCLG for that contaminant expressed in the same units as the MCL;

(iii) If there is no MCL for a detected contaminant, the table shall indicate that there is a treatment technique, or specify the action level, applicable to that contaminant, and the report shall include the definitions for treatment technique and/or action level, as appropriate, specified in paragraph(3)(c) of this section;

(iv) For contaminants subject to an MCL, except turbidity, total coliforms, fecal coliform and E.coli, the highest contaminant level used to determine compliance with R.61-58.5, Maximum Contaminant Levels in Drinking Water, and the range of detected levels, as follows:

(A) When compliance with the MCL is determined annually or less frequently: The highest detected level at any sampling point and the range of detected levels expressed in the same units as the MCL.

(B) When compliance with the MCL is determined by calculating a running annual average of all samples taken at a monitoring location: the highest average of any of the monitoring locations and the

range of all monitoring locations expressed in the same units as the MCL. For the MCLs for TTHM and HAA5 in R.61 58.5.P(2)(b), systems must include the highest locational running annual average for TTHM and HAA5 and the range of individual sample results for all monitoring locations expressed in the same units as the MCL. If more than one location exceeds the TTHM or HAA5 MCL, the system must include the locational running annual averages for all locations that exceed the MCL.

(C) When compliance with the MCL is determined on a system wide basis by calculating a running annual average of all samples at all monitoring locations: the average and range of detection expressed in the same units as the MCL. The system is required to include individual sample results for the IDSE conducted under R.61 58.14 when determining the range of TTHM and HAA5 results to be reported in the annual consumer confidence report for the calendar year that the IDSE samples were taken.

**Note to paragraph (4)(d)(iv):** When rounding of results to determine compliance with the MCL is allowed by the regulations, rounding should be done prior to multiplying the results by the factor listed in Appendix D of this regulation;

(v) For turbidity.

(A) When it is reported pursuant to the requirements of R.61- 58.10.C, Filtration and Disinfection [criteria for avoiding filtration]: the highest monthly value. The report should include an explanation of the reasons for measuring turbidity.

(B) When it is reported pursuant to R.61-58.10.E, Filtration and Disinfection [filtration], or R.61-58.10.H(4): The highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in R.61-58.10.E, Filtration, or R.61-58.10.H(4): for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity;

(C) When it is reported pursuant to R.61-58.10.E or R.61-58.10.H(4) or R.61-58.10.I(6): the highest single measurement and the lowest monthly percentage of samples meeting the turbidity limits specified in R.61-58.10.E or R.61-58.10.H(4) or R.61-58.10.I(6) for the filtration technology being used. The report should include an explanation of the reasons for measuring turbidity.

(vi) For lead and copper: the 90th percentile concentration of the most recent round(s) of sampling, the number of sampling sites exceeding the action level, and the range of tap sampling results;

(vii) For total coliform analytical results until March 31, 2016:

(A) The highest monthly number of positive samples for systems collecting fewer than forty (40) samples per month; or

(B) The highest monthly percentage of positive samples for systems collecting at least forty (40) samples per month.

(viii) For fecal coliform and E.coli. until March 31, 2016: The total number of positive samples;

(ix) The likely source(s) of detected contaminants to the best of the operator's knowledge. Specific information regarding contaminants may be available in sanitary surveys and source water assessments, and should be used when available to the operator. If the operator lacks specific information on the likely source, the report shall include one or more of the typical sources for that contaminant listed in Appendix D to this regulation which are most applicable to the system;

(x) For E.coli analytical results under R.61-58.17: The total number of positive samples;

(xi) The report shall include a statement that a service line inventory (including inventories consisting only of a statement that there are no lead service lines) has been prepared and include instructions to access the service line inventory; and

(xii) The report shall notify consumers that complete lead tap sampling data are available for review and shall include information on how to access the data.

(5) If a community water system distributes water to its customers from multiple hydraulically independent distribution systems that are fed by different raw water sources, the table should contain a separate column for each service area and the report should identify each separate distribution system. Alternatively, systems could produce separate reports tailored to include data for each service area.

(6) The table(s) shall clearly identify any data indicating violations of MCLs or treatment techniques and the report shall contain a clear and readily understandable explanation of the violation including: the length of the violation, the potential adverse health effects, and actions taken by the system to address the violation. To describe the potential health effects, the system shall use the relevant language of Appendix D to this regulation.

(7) For detected unregulated contaminants for which monitoring is required (except Cryptosporidium), the table(s) shall contain the average and range at which the contaminant was detected. The report may include a brief explanation of the reasons for monitoring for unregulated contaminants.

(8) Information on Cryptosporidium, radon, and other contaminants:

(a) If the system has performed any monitoring for Cryptosporidium, including monitoring performed to satisfy the requirements of Sec. 141.143 (NPDWR Microbial Monitoring), which indicates that Cryptosporidium may be present in the source water or the finished water, the report shall include:

- (i) A summary of the results of the monitoring; and
- (ii) An explanation of the significance of the results.

(b) If the system has performed any monitoring for radon which indicates that radon may be present in the finished water, the report shall include:

- (i) The results of the monitoring; and
- (ii) An explanation of the significance of the results.

(c) If the system has performed additional monitoring which indicates the presence of other contaminants in the finished water, the Department strongly encourages systems to report any results which may indicate a health concern. To determine if results may indicate a health concern, the Department recommends that systems find out if EPA has proposed an NPDWR or issued a health advisory for that contaminant by calling the Safe Drinking Water Hotline (800-426-4791). EPA and the Department considers detects above a proposed MCL or health advisory level to indicate possible health concerns. For such contaminants, EPA and the Department recommends that the report include:

- (i) The results of the monitoring; and

(ii) An explanation of the significance of the results noting the existence of a health advisory or a proposed regulation.

(9) Compliance with the State Primary Drinking Water Regulations (SPDWR). In addition to the requirements of this regulation, the report shall note any violation that occurred during the year covered by the report of a requirement listed below, and include a clear and readily understandable explanation of the violation, any potential adverse health effects, and the steps the system has taken to correct the violation:

(a) Monitoring and reporting of compliance data;

(b) Filtration and disinfection prescribed by R.61-58.10, Filtration and Disinfection. For systems which have failed to install adequate filtration or disinfection equipment or processes, or have had a failure of such equipment or process which constitutes a violation, the report shall include the following language as part of the explanation of potential adverse health effects: "Inadequately treated water may contain disease-causing organisms. These organisms include bacteria, viruses, and parasites which can cause symptoms such as nausea, cramps, diarrhea, and associated headaches;"

(c) Lead and copper control requirements prescribed by R.61-58.11, Lead and Copper. For systems which fail to take one or more actions prescribed by R.61- 58.11.B(2) [Corrosion Control Treatment Requirements], R.61-58.11.C [ Applicability of Corrosion Control Treatment Steps to Small, Medium-Size and Large Water Systems], R.61-58.11(D) [Description of Corrosion Control Treatment Requirements], R.61-58.11.E [Source Water Treatment Requirements], R.61-58.11.F [Lead Service Line Replacement Requirements], the report shall include the applicable language of Appendix D to this regulation for lead, copper, or both;

(d) Treatment techniques for Acrylamide and Epichlorohydrin prescribed by R.61- 58.5.AA, Treatment Techniques. For systems which violate the requirements of R.61- 58.5.AA, the report shall include the relevant language from Appendix D to this regulation;

(e) Recordkeeping of compliance data;

(f) Special monitoring requirements prescribed by R.61-58.5.T, Special Monitoring for Inorganic and Organic Contaminants, and R.61-58.5.U, Special Monitoring for Sodium; and

(g) Violation of the terms of a variance, an exemption, or an administrative or judicial order.

(10) Variances and Exemptions. If a system is operating under the terms of a variance or an exemption issued under R.61-58.9, Variances and Exemptions, the report shall contain:

(a) An explanation of the reasons for the variance or exemption;

(b) The date on which the variance or exemption was issued;

(c) A brief status report on the steps the system is taking to install treatment, find alternative sources of water, or otherwise comply with the terms and schedules of the variance or exemption; and

(d) A notice of any opportunity for public input in the review, or renewal, of the variance or exemption.

(11) Additional information:

(a) The report shall contain a brief explanation regarding contaminants which may reasonably be expected to be found in drinking water including bottled water. This explanation may include the language of paragraphs (i) through (iii) below or systems may use their own comparable language. The report also shall include the language of paragraph (iv) below:

(i) “The sources of drinking water (both tap water and bottled water) include rivers, lakes, streams, ponds, reservoirs, springs, and wells. As water travels over the surface of the land or through the ground, it dissolves naturally-occurring minerals and, in some cases, radioactive material, and can pick up substances resulting from the presence of animals or from human activity.”

(ii) “Contaminants that may be present in source water include:

(A) Microbial contaminants, such as viruses and bacteria, which may come from sewage treatment plants, septic systems, agricultural livestock operations, and wildlife.

(B) Inorganic contaminants, such as salts and metals, which can be naturally-occurring or result from urban stormwater runoff, industrial or domestic wastewater discharges, oil and gas production, mining, or farming.

(C) Pesticides and herbicides, which may come from a variety of sources such as agriculture, urban stormwater runoff, and residential uses.

(D) Organic chemical contaminants, including synthetic and volatile organic chemicals, which are by-products of industrial processes and petroleum production, and can also come from gas stations, urban stormwater runoff, and septic systems.

(E) Radioactive contaminants, which can be naturally-occurring or be the result of oil and gas production and mining activities.”

(iii) “In order to ensure that tap water is safe to drink, EPA and the Department prescribe regulations which limit the amount of certain contaminants in water provided by public water systems. FDA regulations establish limits for contaminants in bottled water which shall provide the same protection for public health.”

(iv) “Drinking water, including bottled water, may reasonably be expected to contain at least small amounts of some contaminants. The presence of contaminants does not necessarily indicate that water poses a health risk. More information about contaminants and potential health effects can be obtained by calling the Environmental Protection Agency's Safe Drinking Water Hotline (800-426-4791).”

(b) The report shall include the telephone number of the owner, operator, or designee of the community water system as a source of additional information concerning the report.

(c) In communities with a large proportion of non-English speaking residents, as determined by the Department, the report shall contain information in the appropriate language(s) regarding the importance of the report or contain a telephone number or address where such residents may contact the system to obtain a translated copy of the report or assistance in the appropriate language.

(d) The report shall include information (e.g., time and place of regularly scheduled board meetings) about opportunities for public participation in decisions that may affect the quality of the water.

(e) The systems may include such additional information as they deem necessary for public education consistent with, and not detracting from, the purpose of the report.

(f) Systems required to comply with R.61-58.16.

(i) Any ground water system that receives notice from the Department of a significant deficiency or notice from a laboratory of a fecal indicator positive ground water source sample that is not invalidated by the Department must inform its customers of any significant deficiency that is uncorrected at the time of the next report or of any fecal indicator positive ground water source sample in the next report. The system must continue to inform the public annually until the Department determines that particular significant deficiency is corrected or the fecal contamination in the ground water source is addressed under R.61 58.16.F(1). Each report must include the following elements.

(A) The nature of the particular significant deficiency or the source of the fecal contamination (if the source is known) and the date the significant deficiency was identified by the Department or the dates of the fecal indicator positive ground water source samples.

(B) If the fecal contamination in the ground water source has been addressed under R.61 58.16.F(1) and the date of such action.

(C) For each significant deficiency or fecal contamination in the ground water source that has not been addressed under R.61-58.16.F(1), the Department approved plan and schedule for correction, including interim measures, progress to date, and any interim measures completed; and

(D) If the system receives notice of a fecal indicator positive ground water source sample that is not invalidated by the Department, the potential health effects using the health effects language of Appendix D of R.61 58.12.

(ii) If directed by the Department, a system with significant deficiencies that have been corrected before the next report is issued must inform its customers of the significant deficiency, how the deficiency was corrected, and the date of correction.

(g) Systems required to comply with R.61-58.17:

(i) Any system required to comply with the Level 1 assessment requirement or a Level 2 assessment requirement that is not due to an E. coli MCL violation must include in the report the text found in paragraph R.61-58.12.C(11)(g)(i)(A) and paragraphs R.61-58.12.C(11)(g)(i)(B) and R.61-58.12.C(11)(g)(i)(C) as appropriate, filling in the blanks accordingly and the text found in paragraphs R.61-58.12.C(11)(g)(i)(D)(1) and R.61-58.12.C(11)(g)(i)(D)(2) if appropriate.

(A) Coliforms are bacteria that are naturally present in the environment and are used as an indicator that other, potentially harmful, waterborne pathogens may be present or that a potential pathway exists through which contamination may enter the drinking water distribution system. We found coliforms indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(B) During the past year we were required to conduct [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s). [INSERT NUMBER OF LEVEL 1 ASSESSMENTS] Level 1 assessment(s) were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(C) During the past year [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were required to be completed for our water system. [INSERT NUMBER OF LEVEL 2 ASSESSMENTS] Level 2 assessments were completed. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(D) Any system that has failed to complete all the required assessments or correct all identified sanitary defects, is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

- (1) During the past year we failed to conduct all of the required assessment(s).
- (2) During the past year we failed to correct all identified defects that were found during the assessment.

(ii) Any system required to conduct a Level 2 assessment due to an E. coli MCL violation must include in the report the text found in paragraphs R.61- 58.12.C(11)(g)(ii)(A) and R.61-58.12.C(11)(g)(ii)(B), filling in the blanks accordingly and the text found in paragraphs R.61-58.12.C(11)(g)(ii)(C)(1) and R.61-58.12.C(11)(g)(ii)(C)(2), if appropriate.

(A) E. coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely compromised immune systems. We found E. coli bacteria, indicating the need to look for potential problems in water treatment or distribution. When this occurs, we are required to conduct assessment(s) to identify problems and to correct any problems that were found during these assessments.

(B) We were required to complete a Level 2 assessment because we found E. coli in our water system. In addition, we were required to take [INSERT NUMBER OF CORRECTIVE ACTIONS] corrective actions and we completed [INSERT NUMBER OF CORRECTIVE ACTIONS] of these actions.

(C) Any system that has failed to complete the required assessment or correct all identified sanitary defects is in violation of the treatment technique requirement and must also include one or both of the following statements, as appropriate:

- (1) We failed to conduct the required assessment.
- (2) We failed to correct all sanitary defects that were identified during the assessment that we conducted.

(iii) If a system detects E. coli and has violated the E. coli *MCL*, in addition to completing the table as required in R.61-58.12.C(4)(d), the system must include one or more of the following statements to describe any noncompliance, as applicable:

- (A) We had an E. coli-positive repeat sample following a total coliform-positive routine sample.
- (B) We had a total coliform-positive repeat sample following an E. coli-positive routine sample.
- (C) We failed to take all required repeat samples following an E. coli-positive routine sample.

(D) We failed to test for E. coli when any repeat sample tests positive for total coliform.

(iv) If a system detects E. coli and has not violated the E. coli MCL, in addition to completing the table as required in paragraph R.61-58.12.C(4)(d), the system may include a statement that explains that although they have detected E. coli, they are not in violation of the E. coli MCL.

#### **D. Required Additional Health Information.**

(1) All reports shall prominently display the following language: "Some people may be more vulnerable to contaminants in drinking water than the general population. Immuno-compromised persons such as persons with cancer undergoing chemotherapy, persons who have undergone organ transplants, people with HIV/AIDS or other immune system disorders, some elderly, and infants can be particularly at risk from infections. These people should seek advice about drinking water from their health care providers. EPA/CDC guidelines on appropriate means to lessen the risk of infection by Cryptosporidium and other microbial contaminants are available from the Safe Drinking Water Hotline (800-426-4791)."

(2) Ending in the report due by July 1, 2001, a system which detects arsenic at levels above 0.25 mg/L, but below the 0.05 mg/L, and beginning in the report due by July 1, 2002, a system that detects arsenic above 0.005 mg/L and up to and including 0.01 mg/L:

(a) Shall include in its report a short informational statement about arsenic, using language such as: While your drinking water meets State and Federal standards for arsenic, it does contain low levels of arsenic. The Federal standard balances the current understanding of arsenic's possible health effects against the cost of removing arsenic from drinking water. EPA continues to research health effects of low levels of arsenic, which is a mineral known to cause cancer in humans at high concentrations and is linked to other health effects such as skin damage and circulatory problems.

(b) May write its own educational statement, but only in consultation with the Department.

(3) A system which detects nitrate at levels above 5 mg/L, but below the MCL:

(a) Shall include a short informational statement about the impacts of nitrate on children using language such as: Nitrate in drinking water at levels above 10 ppm is a health risk for infants of less than six months of age. High nitrate levels in drinking water can cause blue baby syndrome. Nitrate levels may rise quickly for short periods of time because of rainfall or agricultural activity. If you are caring for an infant you should ask advice from your health care provider.

(b) May write its own educational statement, but only in consultation with the Department.

(4) Every report must include the following lead-specific information:

(a) A short informational statement about lead in drinking water and its effects on children. The statement must include the following information: Lead can cause serious health problems, especially for pregnant women and young children. Lead in drinking water is primarily from materials and components associated with service lines and home plumbing. [NAME OF UTILITY] is responsible for providing high quality drinking water and removing lead pipes, but cannot control the variety of materials used in plumbing components in your home. You share the responsibility for protecting yourself and your family from the lead in your home plumbing. You can take responsibility by identifying and removing lead materials within your home plumbing and taking steps to reduce your family's risk. Before drinking tap water, flush your pipes for several minutes by running your tap, taking a shower, doing laundry, or a load of dishes. You can also use a filter certified by an American National Standards Institute accredited certifier to reduce lead in

drinking water. If you are concerned about lead in your water and wish to have your water tested, contact [NAME OF UTILITY and CONTACT INFORMATION]. Information on lead in drinking water, testing methods, and steps you can take to minimize exposure is available at <http://www.epa.gov/safewater/lead>.

(b) A system may write its own educational statement, but only in consultation with the Department.

(5) Community water systems that detect TTHM above 0.080 mg/L, but below the MCL in R.61-58.5.L, as an annual average, monitored and calculated under the provisions of R.61-58.5.M, must include health effects language prescribed by of Appendix D to of this regulation.

(6) Beginning in the report due by July 1, 2002 and ending January 22, 2006, a community water system that detects arsenic above 0.01 mg/L and up to and including 0.05 mg/L must include the arsenic health effects language prescribed by Appendix D to this regulation.

## **E. Report Delivery and Recordkeeping.**

(1) Except as provided in paragraph (7) below, each community water system shall mail or otherwise directly deliver one copy of the report to each customer.

(2) The system shall make a good faith effort to reach consumers who do not get water bills, using means recommended by the Department. The Department expects that an adequate good faith effort will be tailored to the consumers who are served by the system but are not bill-paying customers, such as renters or workers. A good faith effort to reach consumers would include a mix of methods appropriate to the particular system such as: Posting the reports on the Internet; mailing to postal patrons in metropolitan areas; advertising the availability of the report in the news media; publication in a local newspaper; posting in public places such as cafeterias or lunch rooms of public buildings; delivery of multiple copies for distribution by single-billed customers such as apartment buildings or large private employers; delivery to community organizations.

(3) No later than the date the system is required to distribute the report to its customers, each community water system shall mail a copy of the report to the Department, followed within 3 months by a certification that the report has been distributed to customers, and that the information is correct and consistent with the compliance monitoring data either provided by or submitted to the Department.

(4) No later than the date the system is required to distribute the report to its customers, each community water system shall deliver the report to any other agency or clearinghouse identified by the Department.

(5) Each community water system shall make its reports available to the public upon request.

(6) Each community water system serving 100,000 or more persons shall post its current year's report to a publicly-accessible site on the Internet.

(7) The Department can waive the requirement of paragraph (1) of this section for community water systems serving fewer than 10,000 persons.

(a) Such systems shall:

(i) Publish the reports in one or more local newspapers serving the area in which the system is located;

(ii) Inform the customers that the reports will not be mailed, either in the newspapers in which the reports are published or by other means approved by the Department; and

(iii) Make the reports available to the public upon request.

(b) Systems serving 500 or fewer persons may forego the requirements of paragraphs (7)(a)(i) above, if they provide notice at least once per year to their customers by mail, door-to-door delivery or by posting in an appropriate location that the report is available upon request.

(8) Any system subject to this regulation shall retain copies of its Consumer Confidence Report for no less than three (3) years.

#### **APPENDIX D. CONSUMER CONFIDENCE REPORTS: REGULATED CONTAMINANTS**

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Microbiological contaminants:						
Total Coliform Bacteria†	MCL: (systems that collect $\geq 40$ samples/month) 5% of monthly samples are positive; (systems that collect $<40$ samples/month) 1 positive monthly sample.	MCL: (systems that collect $\geq 40$ samples/month) h) 5% of monthly samples are positive; (systems that collect $<40$ samples/month) h) 1 positive monthly sample.	0	Naturally present in the environment	Coliforms are bacteria that are naturally present in the and are used as an indicator that other, potentially harmful bacteria may be present. Coliforms were found in more samples than allowed and this was a warning of potential problems.	
Total Coliform Bacteria‡	TT		N/A	Naturally present in the environment	Use language in R.51-58.12. C(11)(g)(i)(A)	
Fecal coliform and E. coli†	0	0	Human and animal fecal waste	Fecal coliforms and E. Coli are bacteria whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely-compromised immune systems.		
E. coli‡	Routine and repeat samples	Routine and repeat	0	Human and animal fecal waste	E. coli are bacteria whose presence indicates that the	

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Fecal Indicators (enterococci or coliphage).	are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli	samples are total coliform-positive and either is E. coli-positive or system fails to take repeat samples following E. coli-positive routine sample or system fails to analyze total coliform-positive repeat sample for E. coli				water may be contaminated with human or animal wastes. Human pathogens in these wastes can cause short-term effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a greater health risk for infants, young children, the elderly, and people with severely-compromised immune systems.
Total organic carbon (ppm)	TT	TT	N/A	Human animal waste, and fecal		Fecal indicators are microbes whose presence indicates that the water may be contaminated with human or animal wastes. Microbes in these wastes can cause short-term health effects, such as diarrhea, cramps, nausea, headaches, or other symptoms. They may pose a special health risk for infants, young children, some of the elderly, and people with severely compromised immune systems.
Turbidity (NTU)	TT	TT	N/A	Naturally present	Soil runoff	Total organic carbon (TOC) has no health effects. However, total organic carbon in the environment provides a medium for the formation of disinfection by-products. These byproducts include trihalomethanes (THMs) and haloacetic acids (HAAs). Drinking water containing these by-products in excess of the MCL may lead to adverse health effects, liver or kidney problems, or nervous system effects, and may lead to an increased risk of getting cancer.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
						can interfere with disinfection and provide a medium for microbial growth. Turbidity may indicate the presence of disease-causing organisms. These organisms include bacteria, viruses, and parasites that can cause symptoms such as nausea, cramps, diarrhea and associated headaches.

Radioactive contaminants:

Beta/photon emitters (mrem/yr)	4 mrem/yr	4	N/A	Decay of natural radiation. Some people and man-made deposits.	Certain minerals are radioactive and may emit forms of radiation known as photons and beta
Alpha emitters (pCi/L)	15 pCi/L	15	N/A	Erosion of natural deposits.	beta and photon in excess of the MCL over many years may have an increased risk of getting cancer. Certain minerals are radioactive and may emit a form of radiation known as alpha radiation. Some people who drink water containing alpha emitters in excess of the MCL over many years may have an increased risk of getting cancer.
Combined radium (pCi/L)	5 pCi/L	5	N/A	Erosion of natural deposits.	Some people who drink water containing radium-226 or 228 in excess of the MCL over many years may have an increased risk of getting cancer.
Uranium (pCi/L)	30 µg/L	30	0	Erosion of natural deposits.	Some people who drink water containing uranium in excess of the MCL over many years may have an increased risk getting cancer and kidney toxicity.

Inorganic contaminants:

Antimony (ppb)	.006	1000	6	6	Discharge from petroleum refineries; fire retardants; ceramics; electronics; solder.	Some people who drink water containing antimony over many years could experience increases in blood cholesterol and decreases in blood sugar.
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Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Arsenic (ppb)	10.010	1000	110.	10	Erosion of natural deposits; Runoff from orchards; many years could experience skin damage or and electronics problems with their production wastes.	Some people who drink water containing arsenic in excess of the MCL over many years may have an increased risk of getting cancer.
Asbestos (MFL)	7 MFL		7	7	Decay of asbestos cement water in excess of the MCL over mains; production wastes; erosion of natural deposits.	Some people who drink water containing asbestos developing benign intestinal polyps.
Barium (ppm)	2		2	2	Discharge from metal refineries and coal-burning factories; Discharge from electrical, aerospace, and defense industries	Some people who drink water containing barium in excess of the MCL over many years could experience an increase in their blood pressure.
Beryllium (ppb)	.004	1000	4	4	Discharge from electrical, aerospace, and defense industries	Some people who drink water containing beryllium well in excess of the MCL over many years could develop intestinal lesions
Bromate (ppb)	.010	1000	10	0	By-product of drinking water chlorination.	Some people who drink water containing bromate in excess of the MCL over many years may have an increased risk of getting cancer.
Cadmium (ppb)	.005	1000	5	5	Corrosion of galvanized pipes; Erosion of natural deposits; Discharge from metal refineries; Runoff from waste batteries and paints.	Some people who drink water containing cadmium in excess of the MCL over many years could experience kidney damage.
Chloramines (ppm)	MRDL = 4		MRDL = 4	MRDLG = 4	Water additive used to control microbes.	Some people who use water containing chloramines well in excess of the MRDL could experience irritating to their eyes and nose. Some people who drink water containing chloramines well in excess of the MRDL could experience stomach discomfort or anemia.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Chlorine (ppm)	MRDL = 4		MRDL = 4	MRDLG = 4	Water additive used to control microbes	Some people who use water containing chlorine well in excess of the MRDL could experience irritating effects to their eyes and nose. Some people who drink water containing chlorine well in excess of the MRDL could experience stomach discomfort.
Chlorine dioxide (ppb)	MRDL = .8	1000	MRDL = 800	MRDLG = 800	Water additive used to control microbes	Some infants and young children who drink water containing chlorine dioxide in excess of the MRDL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorine dioxide in excess of the MRDL. Some people may experience anemia.
Chlorite (ppm)	1		1	0.8	By-product of drinking water chlorination.	Some infants and young children who drink water containing chlorite in excess of the MCL could experience nervous system effects. Similar effects may occur in fetuses of pregnant women who drink water containing chlorite in excess of the MCL. Some people may experience anemia.
Chromium (ppb)	.1	1000	100	100	Discharge from water containing chromium steel and pulp; well in excess of the MCL mills; Erosion of over many years could Natural deposits.	Some people who use Discharge from water containing chromium steel and pulp; well in excess of the MCL mills; Erosion of over many years could Natural deposits. experience allergic dermatitis.
Copper (ppm)	AL=1.3		AL=1.3	1.3	Corrosion of household plumbing. Erosion of natural deposits.	Copper is an essential nutrient, but some people who drink water containing copper in excess of the action level over a relatively short amount of time could experience gastrointestinal distress.
						Some people who drink water containing copper in excess of the action level over many years could suffer liver or kidney damage. People with Wilson's Disease should consult their personal doctor.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Cyanide (ppb)	2	1000	200	200	Discharge from steel/metal factories; Discharge from plastic and fertilizer factories.	Some people who drink water containing cyanide well in excess of the MCL over many years could experience nerve damage or problems with their thyroid.
Fluoride (ppm)	4		4	4	Erosion of natural deposits; Water additive which promotes strong teeth Discharge from fertilizer and aluminum factories	Some people who drink water containing fluoride in excess of the MCL over many years could get bone disease, including pain and tenderness of the bones. Fluoride in drinking water at half the MCL or more may cause mottling of children's teeth, usually in children less than nine years old. Mottling, also known as dental fluorosis, may include brown staining and/or pitting of the teeth, and occurs only in developing teeth before they erupt from the gums. Exposure to lead in drinking water can cause serious health effects in all age groups. Infants and children can have decreases in IQ and attention span. Lead exposure can lead to new
Lead	AL=.015	1000	AL=15	0	Corrosion of household plumbing systems; Erosion of natural deposits	of learning and behavior problems or exacerbate existing learning and behavior problems. The children of women who are exposed to lead before or during pregnancy can have increased risk of these adverse health effects. Adults can have increased risks of heart disease, high blood pressure, kidney or nervous system problems.
Mercury [inorganic] (ppb)	.002	1000	2	2	Erosion of natural deposits; discharge from refineries and mercury factories; Runoff from landfills; Runoff from damage cropland.	Some people who drink water containing inorganic mercury well in excess of the MCL over many years could experience kidney damage.
Nitrate (ppm)	10		10	10	Runoff from fertilizer Leaching from septic tanks; Erosion of sewage;	Infants below the age of six months who drink water containing nitrate in excess of the MCL could become seriously ill and, if

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Nitrite (ppm)	1		1	1	Runoff from fertilizer use; Leaching from septic tanks; sewage; Erosion of natural deposits	of untreated, natural deposits. Symptoms include shortness of breath and blue baby syndrome. Infants below the age of six months who drink water containing nitrite in excess of the MCL could become seriously ill and, if untreated, may die. Symptoms include shortness of breath and blue baby syndrome.
Selenium (ppb)	.05	1000	50	50	Erosion of natural deposits; Discharge from petroleum refineries; Erosion of natural deposits; Discharge from mines.	Selenium is an essential nutrient. However, some discharge from people who drink water containing selenium in metal refineries; excess of the MCL over many years could experience hair or fingernail losses, numbness in fingers or toes, or problems with their circulation.
Thallium (ppb)	.002	1000	2	0.5	Leaching from ore-processing sites; Discharge from electronics, glass, and drug factories.	Some people who drink water containing thallium in excess of the MCL over many years could experience hair loss, changes in their blood, or problems with their kidneys, intestines, or liver.

Synthetic organic contaminants including pesticides and herbicides:

2,4-D (ppb)	.07	1000	70	70	Runoff from herbicide used on row crops.	Some people who drink water containing the weed killer 2,4-D well in excess of the MCL over many years could experience problems with their kidneys, liver, or adrenal glands.
2,4,5-TP [Silvex](ppb)	.05	1000	50	50	Residue of banned herbicide	Some people who drink water containing silvex in excess of the MCL over many years could experience liver problems.
Acrylamide	TT		TT	0	Added to water during sewage/wastewater treatment.	Some people who drink water containing high levels of acrylamide over a long period of time could have problems with their nervous system or blood, and may have risk of getting cancer.
Alachlor (ppb)	.002	1000	2	0	Runoff from herbicide used on row crops.	Some people who drink water containing alachlor in excess of the MCL over

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Atrazine (ppb)	.003	1000	3	3	Runoff from well in excess of the MCL herbicide used on row crops.	many years could have problems with their eyes, liver, kidneys, or spleen, or experience anemia, and may have an increased risk of getting cancer. Some people who drink water containing atrazine
Benzo(a)pyrene (nanograms/l).	[PAH] .0002	1,000,000	200	0	Leaching from benzo(a)pyrene in excess linings of water of the MCL over many storage tanks years may experience distribution lines.	reproductive difficulties and may have an increased risk of getting cancer. Some people who drink
Carbofuran (ppb)	.04	1000	40	40	Leaching of soil fumigant used on rice and alfalfa.	carbofuran in excess of the MCL over many years could experience problems with their blood, or nervous or reproductive systems. Some people who drink water containing chlordane in excess of the MCL over
Chlordane (ppb)	.002	1000	2	0	Residue of banned termiticide	many years could experience problems with their liver or nervous system, and may have an increased risk of getting cancer. Some people who drink
Dalapon (ppb)	.2	1000	200	200	Runoff from herbicide used on rights of way.	water containing dalapon well in excess of the MCL over many years could experience minor kidney changes. Some people who drink water containing di(2-ethylhexyl) adipate
Di(2-ethylhexyl) adipate (ppb)	.4	1000	400	400	Discharge chemical factories.	from well in excess of the MCL over many years could experience toxic effects such as weight loss, liver enlargement or possible reproductive difficulties. Some people who drink water containing
Di(2-ethylhexyl) phthalate (ppb)	.006	1000	6	0	Discharge rubber chemical factories.	di(2-ethylhexyl) phthalate and well in excess of the MCL over many years may have problems with their liver, or experience reproductive difficulties, and may have

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Dibromochloropropane (ppt)	.0002	1,000,000	200	0	Runoff/leaching from soil fumigant used on soybeans, many years could cotton, pineapples, and orchards.	an increased risk of getting cancer. Some people who drink water containing DBCP in excess of the MCL over many years could experience reproductive problems and may have an increased risk of getting cancer.
Dinoseb (ppb)	.007	1000	7	7	Runoff from water containing dinoseb herbicide used on well in excess of the MCL soybeans and over many years could vegetables.	Some people who drink water containing dinoseb herbicide used on well in excess of the MCL soybeans and over many years could experience reproductive difficulties.
Diquat (ppb)	.02	1000	20	20	Runoff from herbicide use.	Some people who drink water containing diquat in excess of the MCL over many years could get cataracts.
Dioxin [2,3,7,8-TCDD] (ppq).	.00000003	1,000,000,000	30	0	Emissions from waste incineration and other combustion; Discharge from chemical factories.	Some people who drink water containing dioxin in excess of the MCL over many years could experience reproductive difficulties and may have an increased risk of getting cancer.
Endothall (ppb)	.1	1000	100	100	Runoff from herbicide use.	Some people who drink water containing endothall in excess of the MCL over many years could experience problems with their stomach or intestines.
Endrin (ppb)	.002	1000	2	2	Residue of banned insecticide.	Some people who drink water containing endrin in excess of the MCL over many years could experience liver problems.
Epichlorohydrin.	TT		TT	0	Discharge from industrial chemical factories; An impurity of some water treatment chemicals.	Some people who drink water containing high levels of epichlorohydrin over a long period of time could experience stomach problems, and may have an increased risk of getting cancer.
Ethylene dibromide (ppt)	.00005	1,000,000	50	0	Discharge from petroleum refineries.	Some people who drink water containing ethylene dibromide in excess of the MCL over many years could experience problems with their liver, stomach, reproductive system, or kidneys, and may have an increased risk of getting cancer.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Glyphosate (ppb)	.7	1000	700	700	Runoff from herbicide use	Some people who drink water containing glyphosate in excess of the MCL over many years could experience problems with their kidneys or reproductive difficulties.
Heptachlor (ppt)	.0004	1,000,000	400	0	Residue of banned pesticide.	Some people who drink water containing heptachlor in excess of the MCL over many years could experience liver damage and may have an increased risk of getting cancer.
Heptachlor epoxide (ppt)	.0002	1,000,000	200	0	Breakdown of heptachlor.	Some people who drink water containing heptachlor epoxide in excess of the MCL over many years could experience liver damage, and may have an increased risk of getting cancer.
Hexachlorobenzene (ppb)	.001	1000	1	0	Discharge from metal refineries and agricultural chemical factories.	Some people who drink water containing hexachlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys, or adverse reproductive effects and may have an increased risk of getting cancer.
Hexachlorocyclopentadiene (ppb)	.05	1000	50	50	Discharge from chemical factories	Some people who drink water containing hexachlorocyclopentadiene well in excess of the MCL over many years could experience problems with their kidneys or stomach.
Lindane (ppt)	.0002	1,000,000	200	200	Runoff/leaching from insecticide used on cattle, lumber, gardens.	Some people who drink water containing lindane in excess of the MCL over many years could experience problems with their kidneys or liver.
Methoxychlor (ppb)	.04	1000	40	40	Runoff/leaching from insecticide used on fruits, vegetables, alfalfa, livestock.	Some people who drink water containing methoxychlor in excess of the MCL over many years could experience reproductive difficulties
Oxamyl [Vydate] (ppb)	.2	1000	200	200	Runoff/leaching from insecticide used on apples, potatoes and tomatoes.	Some people who drink water containing oxamyl in excess of the MCL over many years could experience slight nervous system effects.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
PCBs [Polychlorinated biphenyls] (ppt).	.0005	1,000,000	500	0	Runoff from landfills Discharge of waste chemicals	Some people who drink water containing PCBs in excess of the MCL over many years could experience changes in their skin, problems with their thymus gland, immune deficiencies, or reproductive or nervous system difficulties, and may have an increased risk of getting cancer.
Pentachlorophenol (ppb)	.001	1000	1	0	Discharge from wood preserving factories	Some people who drink water containing pentachlorophenol in excess of the MCL over many years could experience problems with their liver or kidneys, and may have an increased risk of getting cancer.
Picloram (ppb)	.5	1000	500	500	Herbicide runoff	Some people who drink water containing picloram in excess of the MCL over many years could experience problems with their liver.
Simazine (ppb)	.004	1000	4	4	Herbicide runoff	Some people who drink water containing simazine in excess of the MCL over many years could experience problems with their blood.
Toxaphene (ppb)	.003	1000	3	0	Runoff/leaching from insecticide used on cotton and cattle.	Some people who drink water containing toxaphene in excess of the MCL over many years could have problems with their kidneys, liver, or thyroid, and may have an increased risk of getting cancer

Volatile organic contaminants:

Benzene (ppb)	.005	1000	5	0	Discharge from factories; Leaching from gas storage tanks and landfills.	Some people who drink water containing benzene in excess of the MCL over many years could experience anemia or a decrease in blood platelets, and may have an increased risk of getting cancer.
Carbon tetrachloride (ppb)	.005	1000	5	0	Discharge from chemical plants and industrial activities.	Some people who drink water containing carbon tetrachloride in excess of the MCL over many years could experience problems with their liver and may

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Chlorobenzene (ppb)	.1	1000	100	100	Discharge from water containing chemical and agricultural chemical factories	have an increased risk of getting cancer. Some people who drink water containing chlorobenzene in excess of the MCL over many years could experience problems with their liver or kidneys.
o-Dichlorobenzene (ppb)	.6	1000	600	600	Discharge from industrial chemical	Some people who drink water containing o-dichlorobenzene well in excess of the MCL over liver, kidneys, or circulatory systems.
p-Dichlorobenzene (ppb)	.075	1000	75	75	Discharge from industrial chemical factories	Some people who drink water containing p-dichlorobenzene in excess of the MCL over many years could experience anemia, damage to their liver, kidneys, or spleen, or changes in their blood.
1,2-Dichloroethane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-dichloroethane in excess of the MCL over many years may have an increased risk of getting cancer
1,1-Dichloroethylene (ppb)	.007	1000	7	7	Discharge from industrial chemical factories.	Some people who drink water containing 1,1-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
cis-1,2-Dichloroethylene (ppb)	.07	1000	70	70	Discharge from industrial chemical factories.	Some people who drink water containing cis-1,2-dichloroethylene in excess of the MCL over many years could experience problems with their liver.
trans-1,2-Dichloroethylene (ppb).	.1	1000	100	10	Discharge from industrial chemical factories.	Some people who drink water containing trans-1,2-dichloroethylene well in excess of the MCL over many years could experience problems with their liver.
Dichloromethane (ppb)	.005	1000	5	0	Discharge from pharmaceutical and chemical factories	Some people who drink water containing dichloromethane in excess of the MCL over many years could have liver problems and may have an increase risk of getting cancer.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
1,2-Dichloropropane (ppb)	.005	1000	5	0	Discharge from industrial chemical factories.	Some people who drink water containing 1,2-Dichloropropane excess of the MCL over many years may have an increased risk of getting cancer.
Ethylbenzene (ppb)	.7	1000	700	700	Discharge from petroleum refineries.	Some people who drink water containing ethylbenzene well in excess of the MCL over many years could experience problems with their liver or kidneys.
Haloacetic Acids (HAA) (ppb).	.060	1000	60	N/A	By-product of drinking water disinfection.	Some people who drink water containing haloacetic acids in excess of the MCL over many years may have an increased risk of getting cancer.
Styrene (ppb)	.1	1000	100	100	Discharge from water containing styrene rubber and plastic factories and leaching from landfills.	Some people who drink water containing styrene rubber and plastic well in excess of the MCL over many years could have problems with their liver, kidneys or circulatory system.
Tetrachloroethylene (ppb)	.005	1000	5	0	Discharge from factories and dry cleaners.	Some people who drink water containing tetrachloroethylene in excess of the MCL over many years could have problems with their liver, and may have an increased risk of getting cancer.
1,2,4-Trichlorobenzene (ppb)	.07	1000	70	70	Discharge from textile-finishing factories.	Some people who drink water containing 1,2,4-trichlorobenzene well in excess of the MCL over many years could experience changes in their adrenal glands.
1,1,1-Trichloroethane (ppb)	.2	1000	200	200	Discharge from metal degreasing sites and other factories.	Some people who drink water containing 1,1,1-trichloroethane in excess of the MCL over many years could experience problems with their liver, nervous system, or circulatory system.
1,1,2-Trichloroethane (ppb)	.005	1000	5	3	Discharge from industrial chemical factories.	Some people who drink water containing 1,1,2-trichloroethane well in excess of the MCL over many years could have problems with their liver, kidneys, or immune systems.

Contaminant (units)	Traditional MCL in mg/L	To convert for CCR, multiply by	MCL in CCR units	MCLG	Major sources in drinking water	Health effects language
Trichloroethylene (ppb)	.005	1000	5	0	Discharge from trichloroethylene in excess metal degreasing of the MCL over many sites and other years could experience problems with their liver and may have an increased risk of getting cancer.	Some people who drink water containing trihalomethanes in excess of the MCL over many years may experience problems with their liver, kidneys, or central nervous systems, and may have an increased risk of getting cancer.
TTHMs [Total trihalomethanes] (ppb)	0.10/.080	1000	100/80	N/A	By-product of drinking water disinfection.	Some people who drink water containing toluene from well in excess of the MCL over many years could have problems with their nervous system, kidneys, or liver.
Toluene (ppm)	1		1	1	Discharge from petroleum factories.	Some people who drink water containing vinyl chloride in excess of the MCL over many years may have an increased risk of getting cancer.
Vinyl Chloride (ppb)	.002	1000	2	0	Leaching from PVC piping; Discharge from plastics factories.	Some people who drink water containing xylenes in excess of the MCL over many years could experience damage to their nervous system.
Xylenes (ppm)	10		10	10	Discharge from petroleum factories; Discharge from chemical factories.	NTU=Nephelometric Turbidity Units (a measure of water clarity) ppm=parts per million, or milligrams per liter (mg/L) ppt=parts per trillion, or nanograms per liter TT=Treatment Technique

**Key:**

AL=Action Level

MCLG=Maximum Contaminant Level Goal

MRDL=Maximum Residual Disinfectant Level

mrem/year=millirems per year (a measure of radiation absorbed by the body)

N/A=Not Applicable

pCi/l=picocuries per liter (a measure of radioactivity)

ppb=parts per billion, or micrograms per liter ( $\mu\text{g}/\text{l}$ )

ppq=parts per quadrillion, or picograms per liter

MCL=Maximum Contaminant Level

MFL=million fibers per liter

MRDLG=Maximum Residual Disinfectant Level Goal

**Appendix D to R.61-58.12 - endnotes**

1These arsenic values are effective January 23, 2006. Until then, the MCL is 0.05 mg/L and there is no MCLG.

†Until March 31, 2016

‡Beginning April 1, 2016