



State of Ohio Environmental Protection Agency
Division of Drinking and Ground Waters

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Disinfectants/Disinfection Byproducts Rule Information Sheet
**Information for Ground Water Systems, Regulated Hauled Water Systems, and those
Surface Water Systems serving 500 to 9,999 persons**

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The Stage 1 Disinfectants/Disinfection Byproducts Rule (D/DBP Rule) is a federal rule that will become effective in Ohio in 2001. Public water systems serving 500 to 9,999 persons will be regulated by the D/DBP Rule beginning **January 1, 2004**. This will include all community systems and all non-transient non-community systems which add any disinfectant or oxidant (chlorine, sodium hypochlorite, calcium hypochlorite, chlorine dioxide, or ozone) to the treated water and any transient non-community water system which provides water treated with chlorine dioxide. Consecutive water systems (i.e., those systems that purchase water from a public water system) which do not treat water with any of the above mentioned chemicals will have alternate requirements as outlined in the **Information Sheet for Consecutive Water Systems**.

Because your system has not been required to monitor for total trihalomethanes (TTHM) in the past, you may have questions as to what the D/DBP Rule may involve. To help you prepare for the D/DBP Rule, the following is a summary of some of the key changes your system will be required to comply with.

Chemical Limits and Testing

- Testing requirements will include total trihalomethanes (TTHM) and five haloacetic acids (HAA5), which are disinfection byproducts. The new Maximum Contaminant Level (MCL) for TTHM will be 0.080 mg/L. In addition, a new MCL of 0.060 mg/L will be established for haloacetic acids (HAA5).
- New MCLs will be established for Bromate (0.010 mg/L) and Chlorite (1.0 mg/L). Bromate monitoring will be required of systems which use ozone. Chlorite monitoring only will be required of systems which use chlorine dioxide (i.e., sodium- and calcium hypochlorite are not included).
- Maximum Residual Disinfectant Levels (MRDLs), a new term with a context similar to MCL, will be established for Total Chlorine (4.0 mg/L) and Chlorine Dioxide (0.8 mg/L).

Operational Requirements

- This rule requires all systems to have a certified operator in responsible charge of the water system. Criteria and specific requirements for certified operators can be found in the operator certification rules in the Ohio Administrative Code (OAC).
- Analytical methods for measuring chlorine residual will be changed to require digital equipment (i.e., no color wheels or analog test kits). The test kit must have a detection limit of at least 0.1 mg/L. A list of required specifications for a colorimetric test kit will be in OAC rule 3745-81-27. Check with your district office or with Ohio EPA Laboratory Certification Unit at (614) 644-4245 for additional guidance and requirements.

Monitoring and Reporting

- Required monitoring will include TTHM and HAA5. The monitoring and reporting requirements for your size of system will be one sample per treatment plant (Source Treatment Unit, or STU) at the maximum residence time location. Surface water systems must collect this one sample quarterly. Ground water systems must collect this one sample annually during the month of warmest water temperature. For systems that monitor quarterly, compliance will be based on a running annual average computed quarterly. For systems that monitor less than quarterly, compliance is based on the average of all samples taken that year. MCL exceedances will necessitate more frequent monitoring.
- For those surface water systems using conventional filtration or lime softening, a D/DBP monthly operating report for total organic carbon (TOC) removal will be required to be completed and filed with Ohio EPA. This new report will include TOC, alkalinity, and Specific Ultraviolet Absorption (SUVA) parameters. There will be an additional monitoring report for bromate, chlorite, chlorine dioxide, and chlorine residual. More information regarding these monthly operating reports will be forthcoming closer to the compliance date.
- Monitoring results may indicate the possible need for additional treatment to include best available technology for reduction of DBP. This may include granular activated carbon, enhanced coagulation (for surface water systems using conventional filtration), or enhanced softening (for systems using lime softening).
- You will be required to develop and implement a sample monitoring plan for disinfectant residual and disinfection byproducts monitoring. If you serve 3,300 or more persons, this plan will be required to be submitted to and approved by Ohio EPA. If you serve less than 3,300 persons, the plan must be developed and kept current for on-site inspection. Disinfectant residual monitoring compliance for total chlorine, including chloramines, will be based upon a running annual average, computed quarterly, of the monthly average of all samples collected under this rule. Disinfectant residual monitoring will be required at the same distribution point and time as total coliform monitoring. In addition, if you feed ozone or chlorine dioxide, you will be required to prepare a sample monitoring plan for bromate or chlorite, respectively.
- **Surface water community public water systems serving less than 10,000 persons will be required to monitor for TTHM and HAA5 beginning January 1, 2002. This monitoring is for information collection purposes only. The MCLs will not be enforced until January 1, 2004.**

Pertinent OAC Sections Being Revised or Developed

- 3745-81-01 Definitions
- 3745-81-10 Maximum Residual Disinfectant Levels
- 3745-81-11 Maximum Contaminant Levels and Best Available Technologies for Inorganic Contaminants
- 3745-81-12 Maximum Contaminant Levels and Best Available Technologies for Organic Contaminants
- 3745-81-23 Inorganic Chemical Monitoring Requirements
- 3745-81-24 Organic Chemical Monitoring Requirements
- 3745-81-27 Analytical Techniques
- 3745-81-32 Public Notification
- 3745-81-70 Monitoring Requirements for Disinfectant Residuals
- 3745-81-75 Recordkeeping, Reporting, and Actionable Requirements

- 3745-81-77 Treatment Techniques for Control of Disinfection Byproduct (DBP) Precursors
- 3745-88-01 Optimization of Distribution Systems for Control of Disinfection Byproducts
- 3745-89-03 Procedure for Laboratory Certification

What Should I Be Doing Now?

Your public water system should begin planning for the D/DBP Rule. This includes planning and budgeting for TOC, alkalinity, TTHM, HAA5, and possible disinfectant residual monitoring in addition to that currently being conducted. Depending upon your TTHM monitoring results, additional future monitoring of your raw and finished water quality may be required. In addition, you should begin planning for possible changes in your taste and odor treatment (if you are using chlorine) by considering other oxidants, such as potassium permanganate. You may conduct TOC and alkalinity monitoring for informational purposes prior to your compliance date. If you do not currently conduct periodic jar testing, treatment process optimization, and other critical evaluations of your treatment plant performance, you may wish to begin doing this now.

Additional information regarding more specific issues, such as compliance criteria, alternative compliance criteria, and treatment techniques, is available at your Ohio EPA district office. Ohio EPA is currently developing training sessions which will be provided free of charge at various locations around the state. These training sessions will be offered in early 2001 and will tentatively be offered again closer to the January 1, 2004 compliance date. We encourage you to stay informed of the new regulations and the resulting implementation issues by participating in the public comment process, attending drinking water conferences and seminars, reading regulatory updates as they become available, and visiting the Ohio EPA web site at www.epa.state.oh.us/ddagw/ddagwmain.html. You may also contact Richard Ciotola at Ohio EPA Central Office at (614) 644-2752 or by e-mail at richard.ciotola@epa.state.oh.us.