DEQ

FACT SHEET

OFFICE OF DRINKING WATER & MUNICIPAL ASSISTANCE – ENVIRONMENTAL ASSISTANCE CENTER 800-662-9278

MONITORING REQUIREMENTS & MAXIMUM CONTAMINANT LEVELS FOR NONCOMMUNITY WATER SUPPLIES

Michigan's Safe Drinking Water Act, 1976 PA 399, regulates public water supplies, including Type I community water supplies, and Type II noncommunity water supplies. The Act specifies the types and frequency of water sampling required to meet State drinking water standards.

The following is a summary of the sampling requirements for noncommunity water supplies (NCWS). Only the drinking water standards for microbiology, nitrate, and nitrite are applicable to transient noncommunity water supplies. Any NCWS using complete treatment for surface water must conform to additional standards for turbidity, Legionella bacteria, certain viruses, Giardia lamblia, Acrylamide and Epichlorohydrin.

Definitions

Maximum Contaminant Level (MCL): The highest level of a contaminant that is allowed in drinking water.

Action Level: The concentration of a contaminant that, if exceeded, triggers treatment or other requirements that a water system must follow.

mg/l: Milligrams per liter (mg/l) or parts per million

"Monitor only" : Sampling is required, but no maximum contaminant level has been established.

Microbials – Bacteriologic sampling

The standard frequency of sampling is monthly, quarterly, or annual, dependent on population served. The number of samples required is also dependent on population served.

Contaminant	MCL(mg/l)
Total Coliform	Two positive samples (generally a routine and a repeat sample)
E. coli	One or more of the above positive samples also E. coli positive

If coliform positive samples result, a supply is required to take a minimum of four repeat samples within 24 hours of notification.

Inorganic Chemicals

Inorganic sampling (with waiver)

The standard frequency of sampling is one every three years). After three 3-year monitoring periods have been sampled and no metals detected, a waiver to one sample every nine years may be issued.)

Contaminant	MCL (mg/l)
Antimony	.006
Barium	2.0
Beryllium	.004
Cadmium	.005
Chromium	1
Cyanide	.2
Mercury	.002
Selenium	.05
Thallium	.002

Asbestos monitoring is also a federal requirement; however, analysis for individual nontransients is waived unless asbestos cement materials are used in the water system.

Arsenic sampling

The standard frequency of sampling is one every three years. If a sample result exceeds the MCL monitoring will be increased to quarterly until a running annual average can be calculated.

Contaminant	MCL (mg/l)
Arsenic	.010

Nitrate/Nitrite sampling

The standard frequency of sampling is annual for nitrate and one time sample unless notified for nitrite.

Contaminant	MCL (mg/l)
Nitrate	10
Nitrite	1

If nitrate or nitrite results exceed 5 mg/l or .0 mg/l respectively (50% of MCL), quarterly monitoring is required for nontransient supplies.

Lead/Copper Sampling

The standard frequency of sampling is two, consecutive six month periods, and may then be waived to annual samples for two years, then sample every three years.

Contaminant	Action Level (ppm)
Lead	0.015
Copper	1.3

Student/Employee Population	# Samples/6 months	# Samples after reduction
501 to 3,300	20	10
101 to 500	10	5
<101	5	5

Treatment technique requirements or fixture/plumbing replacements are triggered when the ninetieth percentile lead or copper level exceeds the action level during any monitoring period. The action level is NOT an MCL.

Volatile organic chemicals

The first 3-year compliance period requires quarterly sampling for a year and annual the next two years, however, a supply may be waived to one sample every six years, based upon at least one sample with no detects and proper wellhead protection.

Contaminant	MCL (mg/l)
Benzene	0.005
Carbon tetrachloride	0.005
1,2-dichloroethane	0.005
Trichloroethylene	0.005
1,2-dichloroethylene	0.007
1,1,1-trichloroethane	0.20
Para-dichlorobenzene	0.075
Cis-1,2-dichloroethylene	0.07
Ethylbenzene	0.7
O-dichlorobenzene	0.6
Styrene	0.1
Tetrachloroethylene	0.005
Toluene	1.0
Trans-1,2-dichloroethylene	0.1
Vinyl Chloride	0.002
Xylenes (total)	10.0
Dichloromethane	0.005
1,2,4-trichlorobenzene	0.07
1,1,2-trichloroethane	0.005
1,2-dichloropropane	0.005
Monochlorobenzene	0.1

If VOCs have been detected and confirmed, four consecutive quarterly samples during a 3-year monitoring cycle is required for the contaminants listed above as well as:

Contaminant	MCL (mg/l)
Dibromochloropropane (DBCP)	0.00005
Ethylene Dibromide (EDB)	0.00005

Synthetic organic chemicals

Four consecutive quarterly samples in a 3-year monitoring cycle is required. A supply that serves > 3,300 persons and that has no detect may reduce to not less than 2 quarterly samples in a year during the next 3-year compliance period. A supply that serves < 3,301 persons may be reduced to one sample per 3-year monitoring period. However, a supply may be waived to one sample every six years, based upon at least one sample with no detects and low vulnerability as determined by sanitary survey.

Contaminant	MCL (mg/l)
Alachlor	0.002
Aldicarb	0.003
Aldicarb sulfoxide	0.004
Aldicarb sulfone	0.002
Atrazine	0.003
Benzo(a)pyrene	0.0002
Carbofuran	0.04
Chlordane	0.002
Di(2-ethylhexyl)adipate	0.4
Di(2-ethylhexyl)phthalate	0.006
Dibromochloropropane	0.0002
Dinoseb	0.007
Dioxin (2,3,7,8-TCDD)	0.00000003
Endrin	0.002
Ethylenedibromide	0.0005
Heptachlor	0.0004
Heptachlor epoxide	0.0002
Hexachlorobenzene	0.001
Hexachlorocyclopentadiene	0.05
Lindane	0.0002
Methoxychlor	0.04
Oxamyl (vydate)	0.2
Pentachlorophenol	0.001
Picloram	0.5
Polychlorinated biphenyls	0.0005
Simazine	0.004
Toxaphene	0.003
2,4-D	0.07
2,4,5-TP silvex 0.05	

If the supply is vulnerable to pesticides/herbicides, four consecutive quarterly samples in a 3-year monitoring cycle is required for the contaminants listed above, as well as:

Contaminant	MCL (mg/l)
Glyphosate	0.7
Endothall	0.1
Diquat 0.02	
Dalapon	0.2

Frequencies

The frequencies listed are approximate, but may vary based upon the frequencies assigned to a supply by the local health department having jurisdiction. The assignment of these frequencies may be influenced by many factors, including the compliance history of the supply. Contact the local health department for more information specific to a supply.

Waivers

Waivers will be determined on the basis of vulnerability. Vulnerability will be based on:

- Well construction
- Adequate isolation from contaminants
- Aquifer vulnerability
- Proximity to bulk storage or manufacture of pesticides or herbicides
- A sanitary survey of the water supply
- Previous sample results

Laboratories

Under Act 399, it is a requirement that a Type I or Type II water supply must use a laboratory certified by the State of Michigan to analyze samples for any of the above mentioned contaminants. The DEQ laboratory may be used, or a supply may retain the services of another certified laboratory to meet this requirement; however, the supply is responsible for all fees charged for this service.

The supply must insure that the appropriate sampling bottles are being used for each specific test. Each sample has a specific hold time in which it must reach the laboratory for testing within a specified number of hours of collection. Once that time has exceeded, the results may be considered invalid. Supplies are also encouraged to consider the best means in delivering samples to their drinking water laboratory. Those sending samples in through the mail should consult with their courier on which option will ensure the samples do not exceed their hold times. Contact your laboratory for more information on hold times and sampling bottles.

Common Sample Hold Times

- Total Coliform Bacteria – 30 hour hold time
- Nitrate & Nitrite – 48 hour hold time

Reporting and violation information

A noncommunity water supply is responsible for reporting the results of all sampling to the local health department having jurisdiction. Any failure to sample or report the results of any samples within the monitoring period may result in a violation under The Michigan Safe Drinking Water Act, Act 399. Also, the supply is responsible to take action if an MCL or action level exceedance occurs, such as further sampling, investigation, etc.

- All monitoring or MCL violations require public notice be posted or distributed to customers.
- Failure to resolve violations may result in formal legal action, which may include civil fines.
- All violations are reported to the DEQ and the Environmental Protection Agency. The violations are made available to the public by EPA via the Internet at www.epa.gov/enviro/html/sdwis/sdwis_ov.html

How do I find out more?

The environmental health staffs at the county/district health departments provide direct services to water supply owners in their jurisdictions. Questions regarding sampling requirements for your facility should be directed to your local health department.