

**3745-81-71 General requirements for filtration and disinfection of surface water sources.**

- (A) Rules 3745-81-71 to 3745-81-75 of the Administrative Code are derived from national primary drinking water regulations. The treatment technique requirements of this rule are established in lieu of maximum contaminant levels for the following contaminants: Cryptosporidium, Giardia lamblia, viruses, heterotrophic plate count bacteria, Legionella, and turbidity. Each public water system using a surface water source, in whole or in part, shall provide treatment of that source water which complies with the treatment technique requirements of this rule. The treatment technique requirements consist of installing and properly operating water treatment processes which consistently and reliably achieve the following:
- (1) At least 99.9 per cent (3 log) removal and/or inactivation of Giardia lamblia cysts between a point where the raw water is not subject to recontamination by surface water runoff and a later point before or at the first customer.
  - (2) At least 99.99 per cent (4 log) removal and/or inactivation of viruses between a point where the raw water is not subject to recontamination by surface water runoff and a later point before or at the first customer.
  - (3) At least 99.0 per cent (2 log) removal of Cryptosporidium between a point where the raw water is not subject to recontamination by surface water runoff and a later point before or at the first customer.
- (B) A public water system using a surface water source, in whole or in part, shall be in compliance with paragraph (A) of this rule if the public water system meets the filtration requirements of rule 3745-81-73 of the Administrative Code and the disinfection requirements of rule 3745-81-72 of the Administrative Code.
- (C) The owner of a public water system using a surface water source, in whole or in part, shall place the operation of the public water system under the supervision of an operator of record. The operator of record shall have a valid certification in accordance with Chapter 3745-7 of the Administrative Code.
- (D) "Uncovered finished water storage facility" means a tank, reservoir, or other facility used to store water that will undergo no further treatment except residual disinfection and is open to the atmosphere. Systems are not permitted to begin construction of uncovered finished water storage facilities. Failure to comply with this requirement is a treatment technique violation.
- (E) A new surface water source shall be sampled for twelve consecutive months and analyzed for the contaminants that are listed in the appendix to this rule, "Required Analyses for New Surface Water Sources." The director may reduce or add to the contaminants that are listed in the appendix to this rule because of treatment, promulgated drinking water standards, or other criteria. Other criteria may include existing or emerging contaminants which may pose a threat to public health. Samples collected from a public water system surface water source shall be

analyzed in a laboratory certified to analyze drinking water for contaminants in accordance with Chapter 3745-89 of the Administrative Code. The analytical methods shall be the same as required by the entry point to the distribution system monitoring in accordance with rule 3745-81-27 of the Administrative Code and shall include all the volatile organic and synthetic organic analytes that are quantified by the laboratory for the organic analytical method. Cryptosporidium samples for new surface water sources shall be collected in accordance with the source monitoring requirements in rules 3745-81-65 and 3745-81-66 of the Administrative Code.

Effective: 10/05/2013

R.C. 119.032 review dates: 07/16/2013 and 10/05/2018

Promulgated Under: 119.03

Statutory Authority: 6109.04

Rule Amplifies: 6109.03, 6109.04

Prior Effective Dates: 12/31/90, 01/01/02, 01/01/05, 01/08/10

## APPENDIX

### Required Analysis for Surface Water Sources

#### Inorganic (quarterly testing)

Total dissolved solids	Sulfate
Calcium	Chloride
Magnesium	Fluoride
Iron	MBSA
Manganese	Asbestos
Nitrogen ammonia	Nitrite
Nitrate	Sodium

#### Heavy metals (quarterly testing)

Arsenic	Antimony
Barium	Beryllium
Cadmium	Cyanide
Chromium	Nickel
Lead	Thallium
Mercury	Silver
Selenium	Zinc

#### Radiological (quarterly testing)

Total alpha	
Total beta	

#### Volatile organic compounds (VOCs)

One sample taken initially in May, June, or July; quarterly if any detects.	

#### Synthetic organic compounds or SOCs (May, June, or July)

alachlor	endrin
aldicarb	ethylene dibromide (EDB)
aldicarb sulfone	glyphosphate
aldicarb sulfoxide	heptachlor
atrazine	heptachlor epoxide
carbofuran	lindane
chlordane	methoxychlor
2,4-D	metolachlor
2,4,5-TP (silvex)	oxamyl (vydate)
dalaphon	pentachlorophenol
dibromochloropropane (DBCP)	picloram
dinoseb	polychlorinated biphenyls (PCB)
diquat	simazine

endothall	toxaphene
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## Disinfection byproducts

total trihalomethane simulated distribution system (TTHM-SDS) test (quarterly)	SUVA (monthly)
haloacetic acid simulated distribution system (HAA-SDS) test (quarterly)	UV absorbance (monthly)
total organic carbon (monthly)	total alkalinity (monthly)
pH (monthly)	

## Microbiological

total coliform (monthly)	Cryptosporidium (twice per month for 12 months)
fecal coliform (monthly)	

## Physical (daily)

Turbidity	