

Notice of Violation - Disinfection byproducts (Trihalomethane- THM)

The Village of Whitehouse Municipal Water System requires testing for certain disinfection byproducts in our drinking water. These disinfection byproducts are the result of applying chlorine to the finished drinking water to kill off any remaining potentially harmful bacteria and make the water safe for consumption. The chlorine reacts with any remaining organic material in the finished water and forms these byproducts.

The Village of Whitehouse is required to test quarterly for two groups of these disinfection byproducts: Total Trihalomethanes (TTHM) and Haloacetic Acids (HAA5). The Village's testing months are February, May, August, and November. When the Village does not meet the predetermined levels permissible, we are issued a "Violation of Maximum Contaminant Level for TTHM" by the Ohio EPA. This notice requires the Village to notify our customers of the violation within 30 days and also to report the violation(s) in the Village's annual Consumer Confidence Report. The results of this testing are reported as a running annual average. This running annual average is what is reported in any notice of violation letter the Village sends to our customers.

In May of 2017, the Village of Whitehouse was issued such notice and is working to resolve these issues in a timely manner. The Village will continue to test and monitor for disinfection byproducts, follow all required public notifications if needed, and continue to research all available options to provide our customers the safest drinking water possible. We appreciate your patience while this matter is being resolved.

The attached fact sheet gives additional information on disinfection byproducts, and as always, you can contact Steve Pilcher at 419-877-5383 if you should have any additional questions.



Disinfection Byproducts in Public Drinking Water

What are disinfection byproducts?

Most drinking water must be treated with disinfectants in order to kill germs. Disinfection byproducts (DBP) form when disinfectants such as chlorine, chlorine dioxide or ozone react with organic and inorganic substances present in the raw water. The primary organic DBP precursors are derived from terrestrial and aquatic plants. Bromide ion is the main inorganic precursor for disinfection byproducts.

Which disinfection byproducts are regulated?

There are hundreds of different disinfection byproducts that can be formed in drinking water. The type and quantity depend in part on the source water quality, type of disinfectant and distribution system operation. The following disinfection byproducts are regulated with a monitoring requirement and a maximum contaminant level:

- total trihalomethanes (TTHM)
- bromate
- five haloacetic acids (HAA5)
- chlorite

What levels of disinfection byproducts are allowed in drinking water?

There are four maximum contaminant levels for disinfection byproducts: total trihalomethanes may be present at 0.080 milligrams per liter (mg/L); five haloacetic acids at 0.060 mg/L; bromate at 0.010 mg/L; and chlorite at 1.0 mg/L.

How often is monitoring required?

The frequency of monitoring varies depending on the public water system population size, source type and type of disinfectant used. Past levels of disinfection byproducts may also result in either an increase or decrease in monitoring. Monitoring can be required daily, monthly, quarterly, annually or once every three years.

What happens when the maximum contaminant level is exceeded?

A maximum contaminant level (MCL) violation is issued to any public water system that exceeds the MCL for one or more disinfection byproducts. Failure to reduce these levels may result in an enforcement action by Ohio EPA.

What are the health effects of disinfection byproducts?

There have been many studies on the health effects of exposure to disinfection byproducts. Although some studies indicate the potential for both short- and long-term adverse health effects, others do not. Some potential health effects include cancer, as well as reproductive and developmental disorders. There is still a lot of uncertainty regarding any one individual's risk when exposed to levels of disinfection byproducts above the maximum contaminant level.

Can drinking water be treated to remove disinfection byproducts?

Yes. There are a variety of treatments available to public water systems to reduce the level of disinfection byproducts in drinking water. Treatment is typically one of two types:

- reduction in the levels of compounds that cause disinfection byproducts; or
- the removal of already-formed byproducts;

Home treatment, such as activated carbon, may also be helpful in reducing the levels of disinfection byproducts in your drinking water. Additional information on home treatment units can be obtained through the National Sanitation Foundation's (NSF) website at nsf.org. NSF is an organization that certifies that products have been independently tested for effectiveness according to their manufacturers' claims.

For more information

For more information, call Ohio EPA's Division of Drinking and Ground Waters at (614) 644-2752.