

Total Trihalomethanes (TTHM)

What are Total Trihalomethanes?

Total Trihalomethanes (TTHM) are a group of organic chemicals that often occur in drinking water as a result of water disinfection and, therefore, are also known as "disinfection byproducts" or DBPs. The four disinfection byproducts in this category are trichloromethane (chloroform), bromodichloromethane (BDCM), dibromochloromethane (DBCM), tribromomethane (bromoform).

The U.S. Centers for Disease Control and Prevention calls drinking water chlorination "one of the most significant public health advances in U.S. history."

Does Total Trihalomethanes have any additional names?

TTHM, trichloromethane (chloroform), bromodichloromethane (BDCM), dibromochloromethane (DBCM), tribromomethane (bromoform).

What are the known health effects?

Chronic oral exposure of humans to TTHM at high doses results in adverse effects on the central nervous system, liver, kidneys, and heart. There have also been studies linking chronic high doses of TTHM and tumors in the liver and kidneys in rats and mice.

How does exposure occur?

The largest source of human exposure to TTHM in the U.S. is from the consumption of chlorinated drinking water. Besides consuming water, other water uses in the home may contribute significantly to total chloroform exposure both from breathing in chloroform vaporized into the air and from it passing through the skin during bathing. Swimming in chlorinated pools will also contribute to the total exposure from the same exposure paths.

Is this contaminant regulated?

Yes, and water supplied to Mount Laurel MUA customers is in compliance with USEPA and NJDEP requirements. The maximum allowable concentration for TTHM is 80 ppb. Water supplied by MLTMUA has a maximum detection of 41.4 ppb with an average concentration of 22 ppb.

How can I reduce exposure?

One of the easiest ways of eliminating the TTHM in drinking water is through the use of activated carbon or charcoal. Reverse osmosis is another method.

Additional information regarding total trihalomethanes, including the information referenced, can be found at:

<http://glenrose.com/wp-content/uploads/ard-ehp-13.pdf>

https://www.who.int/water_sanitation_health/dwg/chemicals/trihalomethsum.pdf

<https://www.cdc.gov/safewater/chlorination-byproducts.html>