

N-Nitrosodimethylamine (NDMA) in Public Drinking Water Supplies using Chloramination in Newfoundland and Labrador

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1.0 Background

N-Nitrosodimethylamine (NDMA) is a compound that can be found in both surface and groundwater sources. There are, however, no industrial or commercial uses of NDMA in Canada. NDMA can also be formed during treatment processes using chloramination.

The Federal-Provincial-Territorial Committee on Drinking Water has released a document for public comment on “N-Nitrosodimethylamine (NDMA) in Drinking Water”. The proposed maximum acceptable concentration (MAC) for NDMA in this document is 0.04µg/L.

Chloramination is not a common disinfectant in Newfoundland and Labrador but is used by two treatment systems. To examine the existence and/or extent of NDMA formation in public water supplies of Newfoundland and Labrador, special monitoring was conducted on the two treatment systems that utilize chloramination.

2.0 Scheduled Sampling

The two water treatment systems in Newfoundland and Labrador that utilize chloramination as a disinfectant are:

- Placentia (Wyses Pond)
- St. John’s (Bay Bulls Big Pond)

3.0 Water Quality Results

Samples for the two communities that utilize ozone were sent to a certified laboratory for water quality analysis for N-Nitrosodimethylamine. The results from the sampling are shown in Table 1.

Table 1: Sample results for N-Nitrosodimethylamine

Community Name	Water Supply	Sample Date	NDMA (µg/L)
Placentia	Wyses Pond	Nov. 10, 2009	<0.0020
St. John’s	Bay Bulls Big Pond	Sept. 28, 2009	0.0030

Both results for NDMA were less than the proposed guideline of 0.04 µg/L.

4.0 Path Forward

Regular water quality monitoring for NDMA will not be scheduled. However, public water supplies that are disinfected with chloramination will be monitored every four to five years to ensure that levels remain below GCDWQ. In addition, monitoring for NDMA will be considered for new water supplies that utilize chloramination or any new treatment plants that implement chloramination into the water treatment process.

5.0 References

Health Canada, 2010. *N-Nitrosodimethylamine (NDMA) in Drinking Water; Document for Public Comment.*