



Department of Public Works

Lead and Copper Public Notice

There have been a number of news reports lately dealing with the issue of lead and copper in drinking water, from the crisis in Flint, Michigan to more recent reports dealing with schools here in eastern Massachusetts. The North Reading Water Department and North Reading School Department are providing information to answer questions relative to this issue as it relates to drinking water in North Reading.

How do lead and copper get into drinking water?

In most public water systems, including North Reading and Andover (which supplies approximately 60% of North Reading's water), lead and copper are not found in the source water. Any lead or copper in the drinking water is most often the result of these metals slowly dissolving into the water from materials used in building plumbing systems used to supply water. Prior to 1986, solder used to join drinking water pipes could contain up to 50% lead. Fixtures, such as faucets, may also contain small amounts of lead. Water coming into contact with these materials – or with copper piping common in most buildings – can cause small amounts of these metals to leach (dissolve) into the water.

In the case of Flint, Michigan, the water supplier switched to a water source that was significantly more corrosive, causing the significant problems experienced there.

North Reading treats our drinking water by raising the water pH to 8.5 for the water entering our distribution piping. Andover makes a similar pH adjustment. At this pH, the water is much less corrosive toward plumbing materials.

Does North Reading test for lead and copper in the drinking water?

As with numerous other potential contaminants, lead and copper in drinking water are regulated under the federal Safe Drinking Water Act. The Lead and Copper Rule requires all public water suppliers to test for lead and copper at locations and at a frequency governed by this rule. This Rule established "Action Levels" of 15 parts per billion (ppb) for lead and 1.3 parts per million (ppm) for copper, and requires public water systems to maintain lead and copper levels in at least 90% of their water samples below these action levels.

Unlike most sampling which is conducted at the sources, lead and copper sampling is done by collecting samples in homes. Residents in homes constructed just prior to the 1986 ban on lead in solder used for drinking water piping are asked to collect a "first draw" sample – i.e., the first water used in the home after the water has not been used for 6 to 8 hours. The thinking behind this sampling methodology is that the homes built just prior to the ban on lead solder would have the highest potential to leach lead into the water, and by collecting samples after the water has remained unused for an extended period of time, the lead and copper levels in those samples would be expected to be the highest of any time during the day. If lead and copper levels in these "worst case" samples are safe, it can reasonably be assumed that lead and copper levels throughout the system are safe.

In North Reading, historical lead and copper sample results have been low for many years, and sampling requirements have been reduced from 60 samples every year down to 30 samples every three years. The most recent sampling of homes took place in August and September of 2015. The 90th percentile lead concentration based on this testing was 4 parts per billion (compared to an Action Level of 15 parts per billion for lead), and the 90th percentile copper concentration was 0.1 parts per million (compared to an Action Level of 1.3 parts per million for copper). Based on these tests, North Reading's water is considered safe to drink with respect to lead and copper.

Does North Reading test water in the Public Schools for lead and copper?

The Lead and Copper Rule also requires that two water samples be collected at two of the Town's Public Schools every three years, during the same period the homes in the Town are being sampled. The table below shows the results of the samples collected at the Town's four Schools in recent years:

School	Date Sampled	Lead Results (ppb)	Copper Results (ppm)
Batchelder School (1)	August, 2015	ND	0.296
Batchelder School (2)	August, 2015	ND	0.150
High/Middle School (1)	August, 2015	ND	0.631
High/Middle School (2)	August, 2015	ND	0.623
Hood School (1)	March, 2016	0.001	0.061
Hood School (2)	March, 2016	ND	0.048
Little School (1)	March, 2016	ND	0.167
Little School (2)	March, 2016	ND	0.340
Little School (3)	March, 2016	ND	0.267

ND means lead was Not Detected in the sample.

The North Reading School Department also checked each water bubbler against a national registry of bubblers that could contribute lead to the drinking water. The School Department has replaced all bubblers that were on the registry.

What can I do to minimize my family's exposure to lead and copper in our drinking water?

North Reading water tests very low in levels of lead and copper, both in homes and in our schools. There are a few simple steps residents can take to ensure the levels of lead and copper in their drinking water are minimized.

Studies have shown that plumbing materials will slowly dissolve lead and copper into the water as the water sits in the piping, causing the levels of lead and copper to be highest when the water has remained unused for several hours. ***Run the cold water briefly prior to using it for cooking or drinking.*** This will flush out that standing water and minimize the lead and copper levels in the water.

A second recommendation is to ***always use the cold water for drinking or cooking.*** The hotter the water, the quicker metals will leach into the water from the plumbing materials. Cold water minimizes this problem.

Where can I go for additional information on lead and copper in my drinking water?

The US Environmental Protection Agency web site, www.epa.gov, contains additional information on lead and copper, as well as other issues relating to public water supplies.

The North Reading Water Department may be reached by phone at (978) 664-6046 or by email at water@northreadingma.gov.