

Drinking Water Chemistry Changes Coming November 2018

In November 2017, the City of Hamilton issued notices to Hamilton businesses advising of upcoming changes to the drinking water chemistry as part of the Corrosion Control Program (CCP). This notice serves as a reminder that these changes will be implemented beginning in November 2018, as it could potentially impact your business operations. If you have tenants at this location we ask that you share this information with them also.

The Ontario Ministry of the Environment and Climate Change (MOECC) Drinking Water Systems Regulations requires all municipalities in Ontario to test for lead in their drinking water systems. To meet this requirement, the City conducted a Lead Sampling Program in 2007. This program confirmed that more than 10% of lead samples taken from residential plumbing systems with lead water pipes exceeded 10 micrograms of lead per litre. As a result, the MOECC required the City of Hamilton to develop and implement a Corrosion Control Plan to reduce the amount of lead in tap water.

In November 2015, Council approved the CCP and the use of orthophosphate for corrosion control, as a means to protect residents from the release of lead into the water due to its contact with lead water pipes, solder or fixtures.

What is Orthophosphate?

Phosphoric acid is a food grade, colourless, odourless liquid that changes to orthophosphate when it mixes with water. Orthophosphate is a phosphate-based inhibitor that creates a protective barrier on plumbing surfaces to reduce the release of metals, such as lead and copper into the drinking water.

When will it be implemented?

Orthophosphate will be in the municipal drinking water system beginning in November 2018. During implementation, the concentration of orthophosphate will be initially targeted to be at 2 milligrams per litre, with operational adjustments possible between 1.8 mg/L and 3 mg/L. Hamilton Water will monitor and adjust water treatment operations to bring lead concentrations at the tap below the Maximum Allowable Concentration (MAC) of 10 mcg/L. We expect the implementation phase to take up to 2 years. If any significant adjustments to the concentration are required, you will be notified in advance. Orthophosphate will not be present in any of the well-based communities including Lynden, Carlisle, Freelton and Greenville.

How can I prepare my business for this change?

Orthophosphate in the water supply may impact businesses that rely on Hamilton's water for manufacturing and production as well as commercial heating and cooling. The City is providing advanced notice of these changes to allow businesses adequate time to identify potential impacts on their individual processes and equipment. Areas where your business may be impacted:

Production and Water Treatment

Water quality is an important aspect of production to many industrial and commercial users. Having orthophosphate in the water may have an impact on a business' production and water treatment, i.e. reverse osmosis systems etc. We recommend that you contact your equipment and process consultants to complete an assessment in advance of November 2018 so that you are able to make any required adjustments prior to orthophosphate implementation.

Sewer Use

The City of Hamilton's Sewer Use By-Law limits the total phosphorus that can be discharged into the sanitary sewer to 10 mg/L. With orthophosphate in the drinking water, some sewer users may be impacted and may need to obtain or amend their Overstrength Discharge permit.

It is estimated that adding up to 3mg/L of phosphoric acid will increase the total phosphorus in the raw wastewater by about 0.3 to 0.6 mg/L. Once the dosage is reduced in the system, the residual phosphorus levels will see a corresponding reduction.

For those businesses that have sewer use overstrength discharges, or are near the threshold for the Sewer Use By-law Limit for total phosphorus, this may impact you. The City will measure the total phosphorus concentration in sewer discharges and account for the additional phosphorus that will be in Hamilton's drinking water so your Overstrength Discharge Permit cost will not be impacted, however your business may still be required to obtain or amend your Permit. For more information on permits and the City's Sewer Use By-Law, please call 905-546-2424 ext.5190 or contact your designated Environmental Enforcement Officer.

Cooling Towers

Orthophosphate in the water may change the type and amount of precipitate that deposits and insulates commercial heat exchangers. Companies may need to adjust their chemical treatment or number of operating cycles to account for the change in phosphorus levels. It is recommended that companies contact their heating and cooling supplier, water treatment chemical provider or process consultant to discuss the need for adjustments to your heating and cooling systems.

Boilers

The impact of orthophosphate on boilers is expected to be minimal. Many customers already add phosphate to precipitate calcium and/or as a tracer in their boiler system. For this reason, companies already adding phosphate may benefit from the implementation of the CCP. These companies should measure their background phosphate level and adjust their dosage accordingly.

This letter is intended to remind you of our upcoming changes to the chemistry of the municipal water supply and to advise you to prepare for these changes. We will issue notices as needed to communicate any future updates.

For more information on the Corrosion Control Program and updates as they are made available, please visit www.hamilton.ca/corrosioncontrol, or call 905-546-CITY(2489).

Regards,

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