

# A CLOSER FOCUS ON MANGANESE IN DRINKING WATER

By Steven Winkley

With the COVID pandemic, the new standards and testing for PFAS and 1,4-Dioxane, a new more stringent Lead and Copper Rule coming, and other matters, it surely is a challenging time for water utilities. However, there is another issue on the horizon that is beginning to receive more public health attention nationally. This is new information regarding the health effects of manganese in drinking water. Research has shown that individuals that drink water with high levels of manganese may have problems with memory, attention, and motor skills. Infants are most susceptible to these health effects.

Manganese is a very common naturally occurring constituent in groundwater. In unconsolidated glacial aquifers, the United States Geological Survey (USGS) has reported that manganese was found in 86 percent of samples collected from wells across the country. The median manganese concentration in all unconsolidated aquifer well samples was 0.34 mg/l.

New York State's Maximum Contaminant Level (MCL) for manganese in water of 0.3 mg/l. This value of 0.3 mg/l is consistent with the EPA's 2004 lifetime health advisory value to protect against concerns of potential health effects. Note that EPA's Secondary Maximum Contaminant Level (SMCL) for manganese is 0.05 mg/L. SMCLs are non-mandatory water quality standards that EPA does not enforce but are established as guidelines for aesthetic considerations, such as taste, color, and odor. In reality, the negative aesthetic issues associated with manganese (staining, etc.) can be seen at levels even lower than 0.05 mg/l.

Some states have declared that the safe level of manganese in water for infants who drink tap water or drink formula made with tap water is 0.10 mg/l. These states include Minnesota and New Hampshire. New Hampshire is requiring public water systems to notify its customers when manganese levels exceed 0.1 mg/l.

What will happen in New York in regards to manganese? Only time will tell. The Association of State Drinking Water Administrators (ASDWA) has recommended that EPA conduct an updated risk assessment on manganese "in a timely manner". I thought it would be prudent to let you know that manganese, a very common and naturally occurring inorganic constituent of drinking water, not only results in objectionable aesthetic issues but has serious negative health concerns that may be more closely regulated in the future. If your system has drinking water with levels of manganese between 0.1 mg/l and 0.3 mg/l it might be prudent to consider how to reduce levels.

As always, feel free to reach me at 1-888-NYRURAL ext. 170 or [winkley@nyruralwater.org](mailto:winkley@nyruralwater.org) if you have questions.



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