

# Manganese (Mn)

## **What is Manganese?**

Manganese is one of the most abundant metals on the earth's surface, making up approximately 0.1% of the earth's crust. Manganese is a naturally occurring element that can be found ubiquitously in the air, soil, and water. Manganese is an essential nutrient for humans and animals.

## **Does Manganese have any additional names?**

No.

## **What are the known health effects?**

Manganese is an essential nutrient at low doses, yet chronic exposure to high doses may be harmful. Although there are substantial data supporting the neurological effects of inhaled manganese in both humans and animals, there are few data for the association between oral exposure to manganese and toxic effects.

Manganese in drinking water can cause aesthetic issues such as metallic-tasting water and black stains on tubs/showers, toilets, plumbing fixtures, and laundry.

## **How does exposure occur?**

The main exposure of humans to manganese is from ingestion of food. The primary sources for surface and ground water manganese are soil/naturally occurring, industrial facility effluent discharge, landfill and underground injection of waste. Manganese, in the form of potassium permanganate, may be used in drinking water treatment to oxidize and remove iron, manganese, and other contaminants.

## **Is this contaminant regulated?**

Yes, and water supplied to the customers of Mount Laurel MUA is in compliance with NJDEP requirements. The recommended upper limit (RUL) of Manganese permitted in drinking water is 50 ppb. Water supplied by Mount Laurel MUA has detected a maximum of 1.8ppb. Mount Laurel MUA wells and NJAWC delivered water below the RUL.

## **How can I reduce exposure?**

For Manganese several treatment technologies have been shown to be capable of removing manganese from drinking water in your home including cation exchange water softening, distillation, filtration, and reverse osmosis.

**Additional information regarding manganese, including the information referenced, can be found at:**

<https://www.atsdr.cdc.gov/toxfaqs/tfacts151.pdf>

<http://www.wqa.org/Portals/0/WQ&A%20sheets/WaterQA%20Manganese.pdf>