

## FREQUENTLY ASKED QUESTIONS

### Q. What is manganese?

A. Manganese is an essential element (or nutrient) for all living organisms and is present in air, food, consumer products, soil and water. It is also found in some drinking water sources.

### Q. How am I exposed to manganese?

A. According to Health Canada, manganese is most easily absorbed in the body from drinking water. The main source of manganese for most people is their diet and, in addition to drinking water, is present in nuts, beans, fruits, and leafy green vegetables. Health Canada indicates that consuming small amounts of manganese is necessary to maintaining your overall health. **However, recent studies have shown that increased levels of manganese can pose greater health risks when consumed in water rather than food.**

### Q. Why is too much manganese a problem?

A. Manganese can cause discolouration in water and stain laundry and plumbing fixtures. According to Health Canada's recent studies, consuming water with elevated levels of manganese may have health effects for infants.

### Q. Why was the guideline for manganese in drinking water revised?

A. As part of Health Canada's Guideline for Canadian Drinking Water results of recent scientific studies show that health effects may be related to high levels of manganese in drinking water. The new evidence has shown that consuming drinking water with high levels of manganese may impact the memory, attention, motor function, and overall intellectual developments of infants and young children.

This information was used as their basis for identifying a **maximum acceptable concentration (MAC)** for manganese in drinking water. These drinking water guidelines are designed to protect the health of the most vulnerable members of society, such as children and the elderly.

# Gantahaz Water Quality Advisory

---

## **Q. Who is at risk from drinking elevated levels of manganese in drinking water?**

**A.** Although exposure to high levels of manganese in drinking water can pose a health risk to the general population, Health Canada has indicated that **infants are at greater risk from manganese in drinking water** than children and adults because:

- Their brains are developing rapidly;
- They drink more water based on body weight; and
- They absorb more manganese and are less likely to remove it from their bodies.

Health Canada's analysis has determined that infants consuming formula reconstituted with high levels of manganese in drinking water are particularly at risk and recommend that drinking water that contains high levels of manganese above their guideline not be used to prepare infant formula.

## **Q. Should I use tap water to bottle-feed my infant?**

**A.** Formula, reconstituted with tap water, can be a source of exposure to manganese for bottle-fed infants. In areas where the level of manganese in drinking water is above the Health Canada MAC guideline (0.12mg/L), it is recommended that an alternate source of water (e.g., bottled water) be used to prepare infant formula. If you are on your own water source (i.e., a private well) you should test your drinking water.

## **Q. If I am pregnant should I source another supply of water?**

**A.** Manganese absorption and excretion is managed by the mother's body. Adults, including expectant mothers, absorb a much smaller amount of manganese from their food and water than infants. As a result, developing fetuses are less sensitive to manganese in drinking water than infants, and with these low levels of manganese pregnant mothers can continue to consume water provided by the District of Mackenzie.

## **Q. Can I transfer manganese to my baby if I am breast feeding?**

**A.** Breast feeding is not likely to be a significant route of exposure.

# Gantahaz Water Quality Advisory

---

**Q. If levels of manganese in my water are above the guideline value, can I still use it to bathe, shower and wash my hands?**

**A.** Exposure to manganese through skin contact is not harmful. The exposure risk from hand washing, showering, or bathing in water with manganese is unlikely to be significant. While inhalation of manganese aerosols during showering has not been directly evaluated it is not expected to pose risk to human health.

**Q. What is the District of Mackenzie doing about water quality overall?**

**A.** The town is actively working with Northern Health to develop strategies to reduce the concentration of manganese within the distribution system.

**Q. Will boiling water remove the manganese?**

**A.** Boiling water may increase manganese concentration, so it is not recommended.

**Q. How do I obtain more information?**

**A.** Please visit our webpage for more information and links to several other resource materials: <https://www.northernhealth.ca/services/environmental-health/drinking-water/drinking-water-resources> or email us at [php@northernhealth.ca](mailto:php@northernhealth.ca)

District of Mackenzie website: <https://districtofmackenzie.ca/public-services/public-works/water-sewers/water>

## REFERENCES

1. <https://www.canada.ca/en/health-canada/programs/consultation-manganese-drinking-water/manganese-drinking-water.html>  
Website Title: Government of Canada  
Article Title: Manganese in Drinking Water
2. <https://www.healthlinkbc.ca/healthlinkbc-files/manganese-drinking-water>  
Website Title: Health Link BC  
Article Title: Manganese in Drinking Water