

# Charter Township of Madison

## Department of Public Works

### Copper in Drinking Water

The Madison Township Department of Public Works is dedicated to providing its customers with a safe, high quality and reliable water supply that meets or exceeds all federal and state drinking water requirements. Our goal is to produce and distribute our product in the most efficient and cost effective way, while maintaining and upgrading the system to meet future requirements. We are also committed to providing professional and courteous services in a timely manner to satisfy the diversified needs of our customers.

The Madison Township Department of Public Works has operated and maintained its own drinking water system since 1992 when it was constructed. The townships drinking water source comes from ground water.

#### What is Copper?

Copper is a naturally occurring metal found in rock, soil, water and sediment. Pure copper is red-orange but becomes blue-green when exposed to air and water.

For centuries, humans have used it to produce copper alloys including brass and bronze. Today, copper is widely used in the production of many items including pennies, electrical wiring, and plumbing materials such as household water pipes.

#### How Does Copper get into Drinking Water?

Copper rarely occurs naturally in the source water supply for drinking water systems. The Major source of copper in drinking water is corrosion of household plumbing, faucets, and water fixtures. Water absorbs

Copper as it leaches from plumbing materials such as pipes, fittings and brass faucets. The amount of copper in your water depends on the types and amounts of minerals in the water, how long water stays in the pipes, the water temperature, and the acidity.

#### How Do I Reduce My Exposure to Copper?

Copper works its way into the water by dissolving copper from the pipes in the household plumbing. The longer the water has stood idle in the pipes, the more copper it is likely to have absorbed. Any time the water has not been used for more than six hours- overnight, for example, or during the day when people have gone to work or school- it should be cleared from the pipes before being used for drinking or cooking. This can be achieved by letting the cold water faucet run for 30 to 60 seconds or until you notice a temperature change and the water becomes colder.

In addition, hot water dissolves copper more quickly than cold water; as a result, water to be used for drinking or cooking should not be drawn from the hot water tap. If you need hot water for drinking or cooking, take it from the cold water tap and heat it. **It is especially important not use the hot water tap for making baby formula.**

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### **How Can Copper Affect My Health?**

A small amount of Copper is an essential for good health. The food and drug administration recommends a dietary allowance of 2 milligrams (mg) of copper per day. Major food sources of Copper are shellfish, nuts, grains, leafy vegetables, mushrooms, chocolate, liver, and some fruits. Exposure to high doses of copper can cause health problems. Short term exposure to high doses of copper can cause gastrointestinal distress. Long-term exposure and severe cases of copper poisoning can cause anemia and disrupt liver and kidney functions. While some of the copper you consume rapidly enters the bloodstream, your body is very good at preventing high levels of copper from entering the bloodstream; it will excrete excess copper after several days. Children under one year old and people with Wilson's or Menke's disease are more vulnerable to the effects of excess copper.

### **Indications of copper**

Low concentrations of copper in drinking water may not noticeably alter the taste, color or smell of the water. At low concentrations, copper, in drinking water may cause no health symptoms. At high concentrations, it can cause a bitter metallic taste in the water and result in blue-green stains on plumbing fixtures.

### **Water Sampling**

Madison Township samples and tests drinking water at multiple residences and businesses throughout the community on a routine basis. Twenty samples in 36 months are required for the detection of lead and copper. All sampling and water testing is scheduled in accordance with EPA and MDEQ guidelines.

### **Contact information**

For further information, please contact Tim Watterson at the Madison Township Department of Public Works at 517-263-9313