

## Copper Analysis (Community)

**Purpose:** To determine the Copper concentration in drinking water. Determination will be done by using a test strip method. You will see if the water meets the Canadian Drinking Water Guidelines.

Copper is naturally present in the environment, but the levels of contamination can be increased around agricultural land (manure spreading), near smelting facility's, and phosphate fertilizer plants, there is also significant amounts of copper released from waste water treatment plants. The copper piping in most buildings that we consume water from, also can contribute to our uptake, depending on the corrosiveness of the water.

Copper is essential to good human health, we don't have to concern ourselves with not getting enough copper, it is present in the food we eat, the air we breath (more so around large manufacturing plants and industries), and the water we drink. We can however consume too much, some of the possible negative health effects of excess copper are, dizziness, vomiting, diarrhea, upset stomachs, and headaches. A 1 mg/L Canadian Guideline Limit Sample will be included for quality control purposes; this is also the limit for copper according to the Canadian Drinking Water Guidelines.

### Materials:

- 1 - 1 mg/L Canadian Guideline Limit sample (CGLS).
- 2 - Test strip packets, with colour charts printed on them.
- 2 - 10 mL disposable beakers.

### Method:

1. Label the two beakers sample, and CGLS.
2. Put 10 mL of sample in the beakers.
3. Dip one test strip in the beaker for 30 seconds with constant back and forth motion.
4. Remove and match color after 2 minutes to determine the Copper concentration in mg/L or parts per million (ppm).

Visit the Safe Drinking Water Foundation Website [www.safewater.org](http://www.safewater.org) to learn more about issues affecting safe drinking water.



**Results:** Compare results to the Canadian Drinking Water Guidelines. The Canadian Guideline should give a result very close to the 1 mg/L guideline; a darker colour means that the water **Does Not** meet Canadian Drinking Water Guidelines.

**Safe Handling of Materials**

**Caution must be taken at all times when handling any chemicals. Although this test is safe to use in any area, please be cautious with the materials supplied.**

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