



## INFORMATION ON WATER CHLORINATION

### Fact Sheet

**Chlorine is added to drinking water during the water treatment process to limit microorganisms like bacteria and viruses found in the water sources that can make us sick.**

#### BENEFITS

- ❖ Chlorine prevents life-threatening diseases like cholera and typhoid fever
- ❖ Chlorine is the most commonly used drinking water disinfectant
- ❖ Chlorine is the disinfectant with the most scientific information

#### RISKS

Chlorine reacts with organic matter present in water like decaying leaves. This reaction produces by-products, most the common being trihalomethanes (THMs).

#### THE LEVELS OF THESE BY-PRODUCTS IN OUR WATER DEPEND ON:

- ❖ **SEASON**
  - Generally lower in the winter than summer because less chlorine is needed at colder temperatures.
- ❖ **SOURCE OF WATER**
  - Lower when wells or large lakes are the sources.
  - Higher when rivers and surface waters are the source because they usually have more organic matter.

There have been animal and human studies showing that long-term exposure to high levels of chlorination by-products like THMs may increase the risk of cancer and may also have an effect on pregnancy miscarriages. These studies do not prove that there is a link between THMs and cancer or miscarriage but they show that more research needs to be done to confirm potential health effects.

#### OVERALL

Benefits of chlorinating our drinking water (less disease) are much greater than any health risks from THMs and other by-products.

Although other disinfectants are available, chlorine remains the choice of water treatment experts.

#### PREVENTION

You cannot remove all disinfection by-products, but here are some steps you can take.

- ❖ Activated carbon filters can be used to remove chlorine and its by-products (follow the manufacturer's instructions).
- ❖ Health Canada recommends the use of chlorine products that are certified to health-based standards. The Standards Council of Canada can provide information on the certification process.

#### References

[Health Canada- Drinking Water Chlorination](#)

Call us Toll-Free at  
1-866-960-5223 for more environmental  
health resources.

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