

WHAT SHOULD I DO ABOUT DRINKING WATER?

If the water is pumped directly from the aquatic environment:

- The above recommendations apply.

If the water is from a private well:

- It is unlikely that the water from a well is affected by cyanobacteria. Nevertheless, some wells conducive to infiltration and located very near the aquatic environment may be contaminated by cyanobacteria. In such a case, take the above precautions.

If the water supplying your home is from a waterworks system:

- It may be consumed and used normally, unless otherwise directed.

DURATION OF RECOMMENDATIONS

Cyanobacteria may proliferate many times in an aquatic environment or even persist throughout the summer season. Moreover, some toxins may remain for many days after the disappearance of the cyanobacteria. So even if the water appears normal after the cyanobacteria disappear, wait for the public health advisory to be lifted before using the aquatic environment in the customary manner.

ARE THERE SOLUTIONS?

There is no technology that eliminates cyanobacteria in aquatic environments in a simple manner. The best solution to prevent the reappearance of cyanobacteria is to reduce phosphorus contamination in the aquatic environment. For example, the use of fertilizer (in farming and for lawns) must be reduced and sewage discharged must be sufficiently treated.



TO FIND OUT MORE

Regarding the effect of cyanobacteria on health, you can contact the Info-Santé service in your area and consult the fact sheet entitled *Cyanobactéries et cyanotoxines (cyanobacteria and cyanotoxins)* on the Website of the Institut national de santé publique du Québec, at www.inspq.qc.ca/pdf/publications/198-CartableEau

For any other information about cyanobacteria, visit the Website of the ministère du Développement durable, de l'Environnement et des Parcs, in the Eau (water) section, at www.mddep.gouv.qc.ca/eau/inter.htm

This pamphlet is available on the Website of the ministère de la Santé et des Services sociaux, at www.msss.gouv.qc.ca/sujets/santepub/environnementale.html

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Environmental Health

Cyanobacteria in water what to do about it



Québec

• Ministère de la Santé et des Services sociaux
• Ministère du Développement durable, de l'Environnement et des Parcs

Québec

WHAT ARE CYANOBACTERIA?

Cyanobacteria are aquatic microorganisms also known as blue-green algae. They especially develop in calm waters that are rich in nutrients, mainly phosphorus. Cyanobacteria are present in a number of aquatic environments in Québec.

When cyanobacteria become very numerous, they form a bloom, which is generally visible on the surface of the water. The water then takes on a blue-green colour that can shift to red. Certain proliferations of cyanobacteria can also form scum along banks. Various factors—wind and rain in particular—can disperse the cyanobacteria in the water and make them less visible. They can proliferate many times in the same water.

Cyanobacteria develop especially in summer and fall. They can, however, persist until the spring thaw. Blooms are sometimes accompanied by unpleasant odours (of decomposition or waste), but they can also smell like a freshly cut lawn.



Some species of cyanobacteria produce toxins, whose type and quantity vary depending on environmental conditions. The toxins can affect human and animal health in cases of consumption of, or contact with, the contaminated water.

As a cautionary measure, any proliferation of cyanobacteria must be considered potentially dangerous, and protective steps must be taken.

WHAT ARE THE HEALTH RISKS?

The most harmful effects on health are caused by the ingestion of toxin-contaminated water. Direct contact with cyanobacteria, especially when swimming or engaging in water sports, can also affect health. Young children have a higher risk of developing serious health problems if they ingest water or scum containing toxins. Cyanobacteria and toxins are most dense on the edge of the aquatic environment affected, i.e. where children play.

WHAT ARE THE POSSIBLE SYMPTOMS?

After ingestion:

- Stomach cramps
- Diarrhea
- Vomiting
- Headache
- Fever

Contact can cause allergic reactions:

- Skin irritation
- Eye irritation
- Sore throat

WHAT SHOULD I DO IF I HAVE ONE OR MORE OF THESE SYMPTOMS?

Note that the above symptoms can be caused by factors other than cyanobacteria. For example, they may be due to the presence of fecal matter in the water (gastroenteritis) or cercaria (small larvae) that cause swimmer's dermatitis (eruptions and itching of the skin).



If, following contact with, or accidental ingestion of, contaminated water, you develop symptoms or are worried about your state of health, contact the Info-Santé service of the CLSC in your area or consult your doctor.

WHAT SHOULD I DO ABOUT CYANOBACTERIA?

If you suspect the presence of cyanobacteria, consult the *Guide d'identification des fleurs d'eau de cyanobactéries* (guide to the identification of cyanobacteria blooms) on the Website of the ministère du Développement durable, de l'Environnement et des Parcs (MDDEP). If you are unable to do so or you still have doubts, contact the regional division of the MDDEP and your municipality. If cyanobacteria are present, the Public Health Department will issue a public health advisory.

When the presence of cyanobacteria is confirmed in a public health advisory or you suspect they are present, you should follow these recommendations:

- Do not use the water for drinking, making ice cubes, or washing, preparing or cooking food (**boiling the water does not eliminate the toxins**).
- Do not swim in the water and avoid any aquatic activity that can lead to accidental ingestion of the water.
- Avoid skin contact with the water or scum. Wearing a wetsuit does not protect the skin.
- Avoid using the water for bathing or showering.
- Do not use the water for brushing your teeth.
- Avoid washing dishes in the water.
- Do not water your vegetable garden with the water.
- Do not let animals drink the water or bathe in it.
- Do not use algicide to destroy the cyanobacteria (the toxins are massively released when the cells die).
- Do not use the water to fill a pool.
- Avoid eating fish or other aquatic species from the affected zone.

Note that there are no recognized home water treatment devices that can eliminate cyanobacteria effectively.