

# **Inorganic Chemicals in Drinking Water Fact Sheet** for Child Care Providers

The Department of Children and Families Child Care Licensing Regulations include a potable (drinking) water testing requirement for licensed and registered child cares. The Health Department is providing this fact sheet to better inform child care providers about testing private water supplies.

## **Child Cares with Private Drinking Water**

The homeowner or child care provider is responsible for testing private drinking water. The Health Department recommends the following testing schedule to ensure that your drinking water is safe:

- Total coliform bacterial test every year
- Inorganic chemical test every five years
- Gross alpha radiation screen every five years

## **Sources of Private Drinking Water**

- Drilled wells and dug wells
- Lakes and rivers
- Springs

# **Inorganic Chemical Test**

An inorganic chemical screen is recommended by the Health Department every five years. The Department of Children and Families chemical testing requirement includes arsenic, nitrate, nitrite, manganese, fluoride and uranium tests. Testing is the only way to know if these chemicals are in your drinking water and at what level.

#### **Arsenic**

Arsenic is a natural element found in some rocks and soils in Vermont. As a result, arsenic may get into drinking water wells in these areas.

Drinking water with arsenic over a long period of time may cause an increased lifetime risk of getting bladder, lung, or skin cancer.

The maximum level for arsenic in water is 0.010 milligrams per liter (mg/L).

### Nitrate/Nitrite

Elevated nitrate or nitrite levels in well water may indicate contamination from sources such as nitrogen based fertilizers, septic systems or leaking sewage lines, manure storage areas, fertilizer or manure applied to agricultural fields, or compost piles.

Drinking water with elevated nitrate/nitrite is linked with two known health problems. One can cause an oxygen deficiency in the blood of young infants, resulting in a bluish skin tone known as "blue baby syndrome," or methemoglobinemia. The second is caused by chemicals formed from nitrates, called nitrosamines, in the digestive tract of adults. This is a long-term health risk linked to cancer.

The maximum level for nitrate in water is 10.0 mg/L and for nitrite is 1.0 mg/L.

#### Manganese

Manganese is a naturally occurring metal that is found in some rocks and soils in Vermont. As a result, manganese may get into drinking water wells in these areas.

Manganese is an essential metal required for many metabolic and cellular functions. Exposure to too much manganese over a long time could harm your nervous system. Studies suggest that infants may be especially sensitive when fed formula made with well water that has high amounts of manganese.

Manganese can also cause a bitter taste and can discolor water and stain clothing and bathroom fixtures grey/black.

The maximum level for manganese in water for staining is 0.050 mg/L and to protect the nervous system, the maximum level is 0.300 mg/L.

#### Fluoride

Fluoride is a mineral found in some rocks and soils in Vermont. As a result, fluoride may get into drinking water wells in these areas.

Fluoride helps prevent tooth decay. It is important to know if well water contains fluoride so adjustments can be made before making infant formula or giving children supplements.

The maximum level for fluoride in water is 4.0 mg/L.

#### **Uranium**

Uranium is a radioactive element found in some rocks and soils in Vermont. As a result, uranium may get into drinking water wells in these areas.

Uranium breaks down (decays) very slowly into other elements including radium and radon gas.

Most ingested uranium is eliminated from the body, but a small amount is absorbed and may go through the bloodstream and kidneys. Elevated levels of uranium may increase a person's risk of kidney damage. Over time, drinking water that contains uranium can increase a person's lifetime risk of cancer. The amount of increased risk depends on the concentration of radioactivity found in the drinking water, the amount of water consumed on a daily basis, and the length of time one has consumed the water.

#### The maximum level for uranium is 0.02 mg/L.

# If your water has an unusual smell, taste, color or sheen -

Switch to another safe water source until test results are known. Call the Health Department at (800) 439-8550 or (802) 863-7220.

#### For more information

For water testing or treatment questions, call the Health Department: (800) 439-8550 or (802) 863-7220

For licensing and regulation questions, call the Department of Children and Families: (800) 649-2642 option 3