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Health Department

**FACTS&details**

about Sedgwick County Government

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## Nitrate

### What is nitrate?

Nitrates are chemical compounds formed from the combination of nitrogen and oxygen or ozone. Nitrogen is vital to all living things but high levels of nitrogen-nitrate can be harmful to the health of people when found in drinking water. This is especially true for infants and pregnant women. Nitrates can be found naturally in surface and groundwater and generally do not cause health problems.

### Who is at risk for nitrate exposure?

Adults can be exposed to nitrates through foods. However, the main exposure to adults and infants is through contaminated well water. Formula and baby food mixed with contaminated water pose the biggest threat to infants who are most vulnerable to adverse health effects from nitrates. Pregnant women do not tolerate nitrate exposure well. Breastfeeding mothers can pass nitrates through their milk to their baby causing an indirect exposure.

### Can I remove nitrates from drinking water?

**DO NOT** heat or boil your water to remove nitrates because some water will evaporate through the steam causing nitrate levels to increase in concentration. Mechanical filters or chemical disinfection, such as chlorination, **DO NOT** remove nitrate from the water.

Nitrates may be successfully removed from water using processes such as ion exchange, distillation, and reverse osmosis. You may contact the Metropolitan Area Building and Construction Department at (316) 660-1840 for recommended procedures.

### What are the health effects?

Levels of nitrates that exceed the maximum containment levels of 10 parts per million, set by the EPA, can cause serious illness if not identified and treated. Nitrates attach to oxygen in the blood limiting its availability to parts of the body that depend on oxygen to function properly.

High levels of nitrates in the body cause methemoglobinemia, commonly called “blue baby syndrome.” When this occurs in babies under six months of age the baby may have blueness around the mouth, hands, and feet (thus the name “blue baby syndrome”). The bluish color may not mean that the baby is having a breathing problem. However, if left untreated and with continued use of the contaminated water, the condition could worsen and affect the baby’s breathing. Other signs of blue baby syndrome can include vomiting and diarrhea.

If you believe you or your baby has been exposed to high levels of nitrates, discontinue use of the well water. If you or your baby is exhibiting signs of nitrate illness, consult your health care provider. A simple finger-prick blood test can be used to diagnose methemoglobinemia. Generally, changing your drinking water is the only treatment you will need, but for severely affected infants, additional treatment may be necessary.

### For More Information:

Contact the Sedgwick County Health Department  
Epidemiology Office at  
316-660-7392 or visit the Sedgwick County  
website at  
[www.sedgwickcounty.org](http://www.sedgwickcounty.org).