

# TOTAL DISSOLVED SOLIDS (TDS) & WELL WATER

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## What are Total Dissolved Solids?

The measurement, “total dissolved solids” (TDS), refers to the total amount of all inorganic and organic substances – including minerals, salts, metals, cations or anions – that are dispersed within a volume of water. By definition, the solids must be small enough to be filtered through a sieve measuring 2 micrometers. TDS concentrations are used to evaluate the quality of freshwater systems. TDS concentrations are equal to the sum of positively charged ions (cations) and negatively charged ions (anions) in the water.

Sources for TDS include agricultural run-off, urban run-off, industrial wastewater, sewage, and natural sources such as leaves, silt, plankton, and rocks. Piping or plumbing may also release metals into the water.

## What are the health effects of Total Dissolved Solids?

While TDS is not considered a primary pollutant, high TDS levels can indicate hard water and may lead to scale buildup in pipes, reduced efficiency of water filters, hot water heaters, etc., and aesthetic problems such as a bitter or salty taste. TDS may also indicate

The United States Environmental Protection Agency (EPA) recommends treatment when TDS concentrations exceed 500 mg/L, or 500 parts per million (ppm). The TDS concentration is considered a Secondary Drinking Water Standard, which means that it is not a health hazard. However, further testing may be warranted, as water with a high TDS concentration may indicate elevated levels of ions that do pose a health concern, such as aluminum, arsenic, copper, lead, nitrate, and others.

## How do I test for Total Dissolved Solids?

Well owners experiencing the problems described above or are considering installing water treatment may wish to determine the TDS concentration levels of their water. In addition to TDS testing, comprehensive water testing is recommended to determine what the TDS level consists of and how to treat it properly. See our wellcare sheet on [Well Water Testing](#) for more information. Contact your state or local health department for a list of state-certified laboratories in your area or use [our interactive map](#).

## What are the treatments for Total Dissolved Solids in well water?

Treatment options depend on the nature of the cations and anions present in the water. For example, a water softener can reduce problems associated with calcium, magnesium, and iron. A reverse osmosis system may be recommended to treat elevated TDS levels associated with high levels of sodium or potassium. Contact a certified water treatment professional for guidance. To locate a certified water treatment professional in your area, visit [WQA's](#) website.

Treatment systems should be certified by NSF or Water Quality Association (WQA) when available. To find treatment systems that are certified visit [NSF](#) or [WQA](#) websites. It is necessary to maintain treatment devices as specified by the manufacturer or your water treatment professional. You should also retest your water after treatment is installed and after maintenance to confirm the effectiveness of the device.

## **For More Information on Total Dissolved Solids & Well Water**

Contact your licensed well contractor, local health department, state environmental agency, or the [wellcare®](#) Hotline.



## **Information to help maintain and protect your water well system:**

[wellcare®](#) is a program of the [Water Systems Council \(WSC\)](#). WSC is the only national organization solely focused on protecting the health and water supply of an estimated 23 million households nationwide who depend on private wells (according to the U.S. EPA).

This publication is one of more than 100 [wellcare®](#) information sheets available FREE at [www.watersystemscouncil.org](http://www.watersystemscouncil.org).

Well owners and others with questions about wells and well water can contact the [wellcare®](#) Hotline at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to fill out a contact form or chat with us live!

## **JOIN THE WELLCARE® WELL OWNERS NETWORK!**

By joining the FREE [wellcare®](#) Well Owners Network, you will receive regular information on how to maintain your well and protect your well water.

Contact us at 1-888-395-1033 or visit [www.wellcarehotline.org](http://www.wellcarehotline.org) to join!