



Total dissolved solids (TDS) is a measurement of all solids dissolved in drinking water, and is mainly made up of minerals. It is not a measurement of heavy metal contamination.



Total Dissolved Solids in Drinking Water

What Are Total Dissolved Solids (TDS)?

All natural water contains minerals and dissolved substances. These minerals in water can be generally measured as total dissolved solids (TDS). TDS is mainly comprised of naturally occurring minerals, mostly inorganic salts (calcium, magnesium, potassium, sodium, bicarbonates, chlorides and sulfates). It can also include contaminants such as heavy metals, but usually at low concentrations that represent a very small fraction of the TDS. The presence of contaminants (such as heavy metals) cannot be determined by measuring TDS.

In drinking water, TDS is measured as parts per million (ppm) or mg/L. Because TDS does not present a risk to human health, the U.S. EPA has not set a mandatory TDS limit, but suggests a maximum level of 500 ppm. At or above this level, consumers may notice deposits, colored water, staining and/or a salty taste. These are not harmful, but rather noticeable aesthetic (such as smell, taste or color) effects when the TDS is above 500 ppm.

TDS (Total Dissolved Solids) Meters



Many consumers ask about TDS meters - A TDS meter measures the electrical conductivity in the water, which can be correlated to the amount of total dissolved solids in the water. A TDS meter does not directly measure heavy metal contaminants such as lead or arsenic in the water. **A TDS reading is not an indication as to whether a water filter is working properly to reduce these contaminants.**

The TDS meter provides an indication of the total dissolved solids in the water

only. Typical TDS levels range from 50 ppm to 1000 ppm. NSF International does not certify TDS meters.

Options for Treating Total Dissolved Solids

There is an online list of [NSF International certified reverse osmosis systems for reducing TDS](#) that will be helpful in choosing the right system for your needs.

While NSF International does not certify TDS meters, the organization does certify filters and treatment systems against standards used to evaluate the filter's ability to reduce contaminants in drinking water such as heavy metals.



To meet the criteria of these standards, four major areas are reviewed:

- Effectiveness of the filter or treatment system at reducing the contaminants being claimed by the manufacturer
- Structural integrity to ensure the filter or treatment system does not leak
- Material safety testing to determine if impurities are being introduced when the filter is in use
- Accuracy of the labeling on the packaging to ensure it does not contain any false or misleading statements

A list of the contaminant testing protocols that are used to validate performance can be found here: [Contaminant Testing Procedures](#).

If you are looking to reduce specific contaminants, you should choose a system that is certified by NSF International to reduce those contaminants. If it is not certified for that specific contaminant, the product is not necessarily going to reduce it in your drinking water.

For more information on water treatment systems, contact NSF International's consumer information specialist at +1 800.673.8010 or info@nsf.org.