

Total Dissolved Solids (TDS)

What are Total Dissolved Solids?

TDS represents the total concentration of dissolved substances in water. TDS is made up of inorganic salts, as well as a small amount of organic matter. Common inorganic salts that can be found in water include calcium, magnesium, potassium and sodium, which are all cations, and carbonates, nitrates, bicarbonates, chlorides and sulfates, which are all anions. Cations are positively charged ions and anions are negatively charged ions.

Does Total Dissolved Solids have any additional names?

No.

What are the known health effects?

Alone, a high concentration of total dissolved solids is usually not a health hazard. In fact, many people buy mineral water, which either has naturally elevated levels of dissolved solids or minerals added. A very low concentration of dissolved solids has been found to give water a flat taste, which is undesirable to many people.

How does exposure occur?

TDS in water supplies originate from natural sources, sewage, urban and agricultural run-off, and industrial wastewater. Salts used for road de-icing can also contribute to the TDS loading of water supplies.

Is this contaminant regulated?

TDS is a secondary contaminant by USEPA and NJDEP which is a non-enforceable guideline for aesthetics. Increased concentrations of dissolved solids can cause aesthetic issues such as hard water, which leaves deposits and films on fixtures, and on the insides of hot water pipes and boilers. The recommended upper limit is 500 ppm because of staining, mineral deposits/scale and taste; the water supplied to Mount Laurel MUA customers is below the recommended limit, with a maximum detection of 268 ppm.

How can I reduce exposure?

Reverse osmosis is an effective way to remove dissolved solids in water.

Additional information regarding TDS, including the information referenced, can be found at:

<https://www.safewater.org/fact-sheets-1/2017/1/23/tds-and-ph>

https://www.who.int/water_sanitation_health/dwq/chemicals/tds.pdf