Salt - Brackish - Estuary Water

Sciencefaircenter.com Study Kit

Each water sample is tested for this Set of parameters:

Salinity (Dissolved Salt) and pH of Water (2 tests per Set)

Log onto
www.sciencefaircenter.com/documentation.tpl
for additional information on this study kit.

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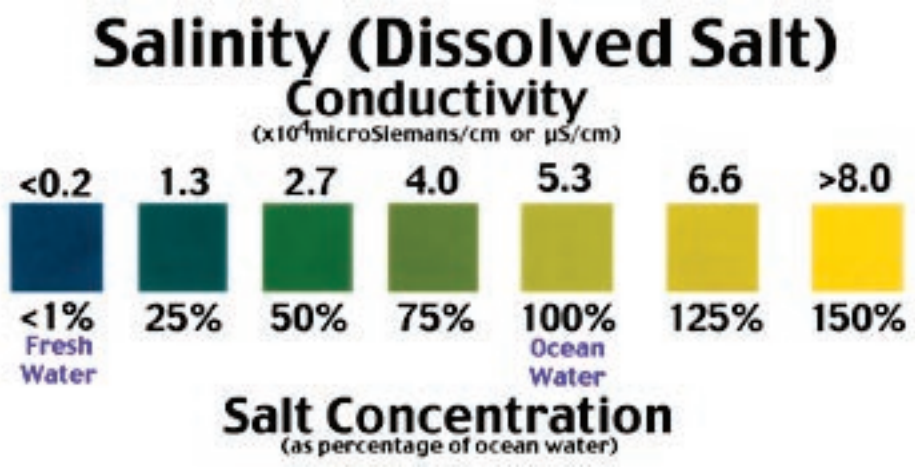

Salinity (Dissolved Salt)

Colorimetric test strips

Testing for Salinity of Salt and Brackish water is very common when monitoring tidal water, bays, estuaries and water wells near the ocean. Distinguishing between salt and fresh water with a pH between 5.5 to 9.5 is very quick and easy with these test strips.

The color chart allows you to read Salinity or Dissolved Salt as Conductivity or as a percentage of average Ocean water salt concentration.

This test reports Salt concentration levels in water at:
<0.2, 1.3, 2.7, 4.0, 5.3, 6.6 and >8.0 (10 microSiemans/cm or µS/cm). Results are obtained from this test in about 1 minute.

Salinity is simply a measure of the amount of salt dissolved in the water. Salts are substances such as common table salt (sodium chloride, NaCl), limestone (calcium carbonate, CaCO3) and many others. They are picked up by the groundwater as it passes through the rocks and soils that make up the aquifer.

Low levels of these salts are vital to the growth of aquatic plants

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and animals, but high levels can cause problems for aquatic life and for human uses, such as for potable water and crop irrigation.

Conductivity is measured in microSiemens/centimeter (µS/cm). A microSiemen is the same as a micromho. Conductivity of a water sample is a measure of its ability to carry an electric current. The more impurities (total dissolved solids) in water, particularly salts, the greater its electrical conductivity.

By measuring the conductivity of a water sample, the amount of total dissolved solids in the sample can be determined. To convert the electrical conductivity (microSiemens/cm) of a water sample to the concentration of total dissolved solids (ppm) in the sample, the conductivity must be multiplied by a factor of between 0.54 and 0.96 for natural waters. The value of this factor depends upon the type of dissolved solids. A widely accepted value to use when you are not determining the type of dissolved solids is 0.67.

TDS (ppm) = Conductivity (microSiemens/cm) x 0.67

pH CHECK

Colorimetric test strips

This pH test is very versitile in that it can be used for drinking water testing, food processing, environmental applications or in any other water matrix.

pH is short for "power of Hydrogen." The balance of positively charged and negatively charged hydrogen ions in water determines pH.

Water that has a low pH is acidic or aggressive and can corrode plumbing resulting in metal ions being present in drinking water and damaged fixtures and pipes. Water that has a high pH is basic and will leave scale in pipes and on fixtures.

This test features two test pads both measuring pH at in the same range using different color indicators. This makes color matching easier than with other colorimetric tests.

This test reports water pH at the following levels:
2, 3, 4, 5, 6, 6.5, 7, 7.5, 8, 8.5, 9, 9.5, 10, 11, 12.

Results are obtained from this test in less than 1 minute.

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NOTE:
These pH test strips perform optimally in water with a Total Alkalinity above 80 mg/L or ppm. Water highly saturated with dissolved solids or highly buffered samples will give elevated results for pH.

NOTE:
National Secondary Drinking Water Regulations set forth by EPA recommend a pH level between 6.5-8.5

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