558 Hydroponics and Ponds Dissolved Solids and Metals

Sciencefaircenter.com Study Kit

Each water sample is tested for this Set of parameters:

Total Dissolved Solids, Dissolved Metals
Combined Metals
(Cu+2,Co+2,Zn+2,Cd+2,Ni+2,etc.),
Iron+2, Copper, and Zinc+2
(5 tests per Set)

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

Find more water information at **www.sciencefairwater.com** (a web work in progress).

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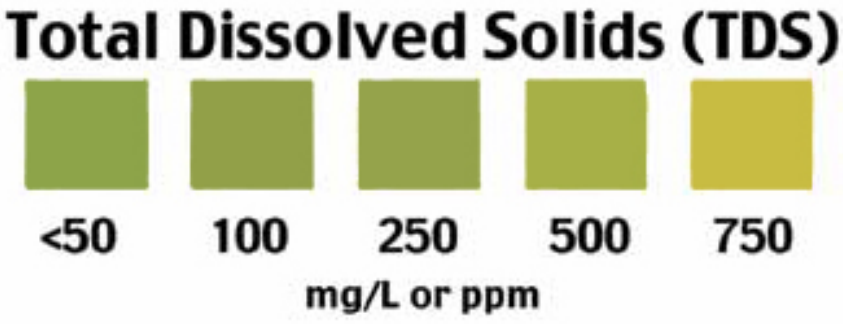

#145 Total Dissolved Solids in Water

Colorimetric test strips. (1 test per strip)

Testing for Total Dissolved Solids (TDS) in tap water is very common and is very quick and easy with these test strips. The EPA Secondary Drinking Water Standard for for TDS is 500mg/L or ppm.

The color chart for this test allows you to read TDS in milligram/L or ppm.

The Color Comparator Chart for this test reports Total Dissolved Solids levels in water at:
0, 50, 100, 250, 500, 750 mg/L or ppm.
(Note: concentration units are milligrams per Liter or parts per million).

Results are obtained from this test in about 30 seconds.

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Dissolved Metals

microgm/L or ppb

#150 Dissolved Metals in Water

Colorimetric test strips. (1 test per strip)

Testing for Dissolved Metals, also referred to as Trace Metals, in tap water is very common and is very quick and easy with these semiquantitative test strips. Each test strip result indicates the combined presence of heavy metals (Cu+2, Co+2, Zn+2, Cd+2, Ni+2, Pb+2, etc…) in water.

The color chart for this test allows you to read Dissolved Metals in micrograms/L (ugms/L) or parts per billion (ppb). The color chart was calibrated using mixed metals solution.

In the presence of one specific metal, or a high concentration of a specific metal, colors such as purple, red, or brown may appear. In this situation, matching levels based on color intensity may be necessary to reach semiquantative results.

The Color Comparator Chart for this test reports mixed Dissolved Metals levels in water at:
<10, 20, 50, 100, 200, 400, 1000 microgms/L or ppb.
(Note: concentration units are micrograms per Liter or parts per billion: ppb.)

Results are obtained from this test in 2 1/2 minutes.

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#155 Iron (Fe^{+2}) in Water

Colorimetric test strips. (1 test per strip)

Testing for Iron in tap water is very common and is very quick. Each test strip result indicates the presence of Iron in the ferrous (Fe+2) state in water.

The color chart for this test allows you to read Iron+2 in milligram/L or ppm.

The presence of Iron in water contributes to the reddish brown stains on porcelin and plumbing fixtures. It can also add a metalic taste and odor to drinking water.

The Color Comparator Chart for this test reports mixed Iron (Fe+2) levels in water at:
0.0, 0.1, 0.3, 1.0, 5.0 milligms/L or ppm.
(Note: concentration units are milligrams per Liter or parts per million).
Best results are obtained when water is room temperature.

Results are obtained from this test in 2 1/2 minutes.

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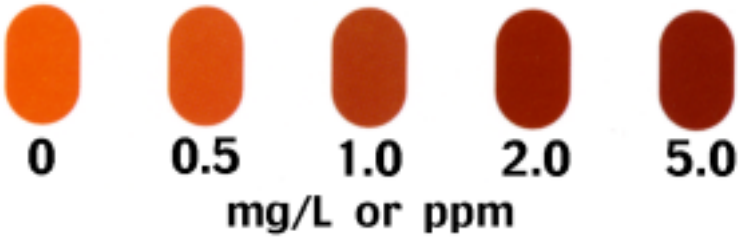
Copper



#165 Copper +1 and +2 in Water

Colorimetric test strips. (1 test per strip)

Copper in drinking water is primarily from its use in plumbing materials. These Copper test strips are suitable for testing drinking water and other water based samples for soluble copper ion. The EPA Primary Drinking Water Standard for Copper is 1 mg/L or 1 ppm.

This test strip features a patented design for accuracy and lack of interferences. Use a water sample of at least 60 ml or 2 oz.

The Color Comparator Chart for this test reports concentrations of Copper (Cu+1 Cu+2) at the following levels:
0, 0.5, 1.0, 2.0, 5.0 mg/L or ppm.

Results are obtained from this test in about 3 minutes.

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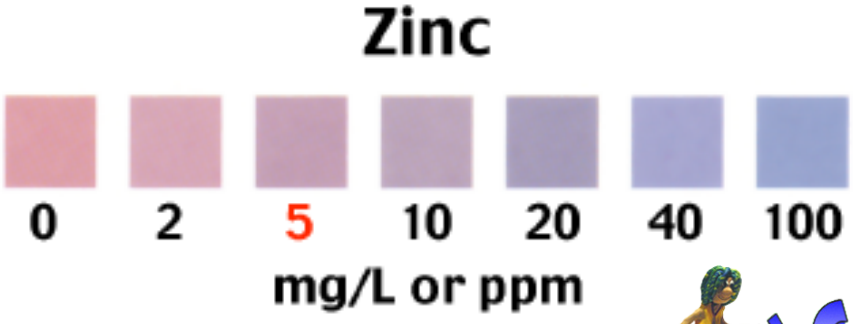

170 Zinc in Water

Colorimetric test strips. (1 test per strip)

Testing for Zinc levels in tap water is quick, accurate and safe with these semiquantitative test strips. Each test strip result indicates the presence of Zinc in water.

The color chart for this test allows you to read Zinc in milligram/L or ppm.
Note: Interferences may occur with Cu+2 >0.1 mg/L;
Mn+2 >5mg/L; and Fe+2 >10mg/L

Most interferences from other metals can be over come by adjusting the pH between 4.0 to 5.5.

The Color Comparator Chart for this test reports mixed Zinc levels in water at:
0, 2, 5, 10, 20, 40, 100 milligms/L or ppm.
(Note: concentration units are milligrams per Liter or parts per million).

Results are obtained from this test in 2 1/2 minutes.

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