Copper Pipe Corrosion and Acidic Water

Sciencefaircenter.com Study Kit

Each water sample is tested for this Set of parameters:

Copper (+1,+2) and pH
(2 tests per Set)

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

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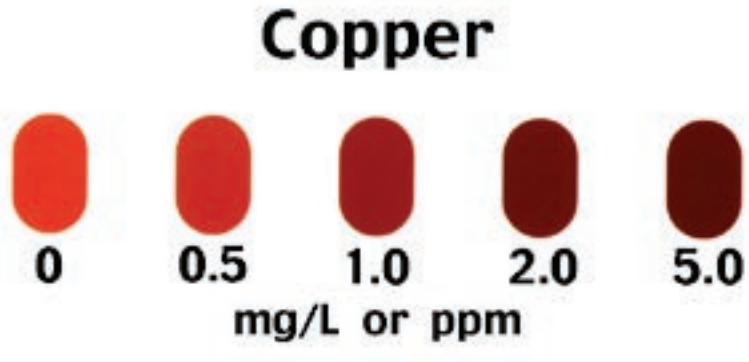

COPPER +1 and +2

Colorimetric test strips.

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 test reports concentrations of Free Dissolved 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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Temperature Compensation Chart

Because the temperature of the tested water will effect the result, you should adjust the dip time according the following chart:

°C / °F	Dip Time
0 / 32	120
1 / 34	113
2 / 36	107
3 / 37	101
4 / 39	96
5 / 41	90
6 / 43	85
7 / 45	81
8 / 46	78
9 / 48	75
10 / 50	71
11 / 52	68
12 / 54	65
13 / 55	60
14 / 57	57
15 / 59	54
16 / 60	51
17 / 62	48
18 / 64	45
19 / 66	42
20 / 68	39
21 / 70	36

°C / °F	Dip Time
22 / 72	34
23 / 73	32
24 / 75	30
25 / 77	29
26 / 79	27
27 / 81	26
28 / 82	25
29 / 84	24
30 / 86	23
31 / 88	23
32 / 90	22
33 / 91	22
34 / 93	22
35 / 95	22
36 / 97	21
37 / 99	21
38 / 100	21
39 / 102	21
40 / 104	20

Note: Measure the temperature of the water sample within ±2°C / ±4°F

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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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