

## Chlorine Dioxide Low Range Test Strips



### Instructions for Use

#### Indications for Use

Chlorine Dioxide Low Range Test Strips are intended to provide an easy to use accurate method for determining low levels of Chlorine Dioxide in water, expressed in parts per million (ppm, mg/L)  $\text{ClO}_2$ . Chlorine Dioxide ( $\text{ClO}_2$ ) is a chemical used in drinking water for disinfection, taste and odor control, algae control, disinfection byproduct control, and iron and manganese removal. Chlorine Dioxide Low Range Test Strips provide a wide test range allowing for easier detection of chlorine dioxide in water to below US EPA and AAMI TIR58:2014 maximum allowable levels of 0.8 ppm (mg/L) in drinking water. There are two methods for detection: Method A - color gradations at 0.1, 0.2, 0.4, 0.6, 0.8, 1.0, 1.2, 1.4, 1.6 ppm (mg/L); Method B - color gradations at <0.1, 0.15, 0.2, 0.3, >0.3, >0.4 ppm (mg/L).

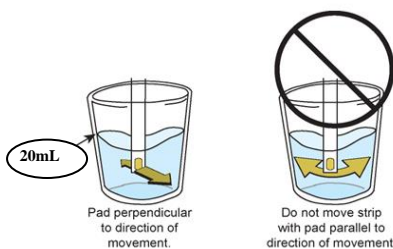
#### Test Procedure

##### Method A:

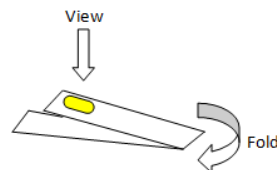
1. Verify the test strips have not expired.
2. Remove only as many test strips as are required. Close the container immediately after removing a strip. Do not touch the test reagent aperture pad at the end of the strip.
3. Collect a **fresh** 20ml sample in a clean plastic sample cup. Begin the test procedure immediately after collecting the sample as chlorine dioxide dissipates quickly. **Note:** If you suspect free chlorine interference, dip one eXact<sup>®</sup> Strip Micro Glycine **REF** (484014, eXact<sup>®</sup> Micro Glycine), in the sample for 20 seconds. Remove strip and continue to step 4.
4. Using an accurate thermometer, measure the temperature of the water to be tested. Depending on the temperature of the water, use Table 1 below to determine the swish time seconds to be used. Dip and swish the strip in the sample for the number of seconds as specified in Table 1. **For best results** use temperature chart instead of bottle indicated 20 second dip time.
5. Move the strip back and forth at a constant gentle rate of two (2) strokes per second, a stroke distance of approximately 1-2 inch wide strokes (one forward – one backward) per second as shown in (Figure 1).
6. Remove the strip and shake once, briskly, to remove excess water.
7. **Wait 30 seconds** for the test strip color to develop. While waiting, fold the white plastic handle of the test strip under the reagent area aperture so that it provides a consistent viewing background (Figure 2).
8. **After the 30 second wait period**, immediately compare the strip color to the 481028 Method A color chart to determine the Chlorine Dioxide level in the water.

**Table 1. Temperature Compensation Chart**

Temp °F / °C	Swish Time in Seconds	Temp °F / °C	Swish Time in Seconds
32° / 0°	80	68° / 20°	26
34° / 1°	75	70° / 21°	24
36° / 2°	71	72° / 22°	22
37° / 3°	68	73° / 23°	21
39° / 4°	65	75° / 24°	20
41° / 5°	61	77° / 25°	19
43° / 6°	58	79° / 26°	18
45° / 7°	56	81° / 27°	18
46° / 8°	53	82° / 28°	17
48° / 9°	50	84° / 29°	17
50° / 10°	47	86° / 30°	16
52° / 11°	45	88° / 31°	16
54° / 12°	43	90° / 32°	15
55° / 13°	41	91° / 33°	15
57° / 14°	39	93° / 34°	14
59° / 15°	37	95° / 35°	14
60° / 16°	34	97° / 36°	14
62° / 17°	32	99° / 37°	13
64° / 18°	30	100° / 38°	13
66° / 19°	28	102° / 39°	13



**Figure 1**



**Figure 2**



**REF 481028**

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### Instructions for Use

#### Method B:

1. Method B sample temperature should be between 55°F-80°F (15°C-28°C).
2. Verify the test strips have not expired.
3. Remove only as many test strips as are required. Close the container immediately after removing a strip. Do not touch the test reagent aperture pad at the end of the strip.
4. Collect a **fresh** 20ml sample in a clean plastic sample cup. Begin the test procedure immediately after collecting the sample as chlorine dioxide dissipates quickly. **Note:** If you suspect free chlorine interference, dip one eXact® Strip Micro Glycine **REF** (484014, eXact® Micro Glycine), in the sample for 20 seconds. Remove strip and continue to step 4.
5. Move the strip back and forth for **40 seconds**, at a constant gentle rate of two (2) strokes per second, a stroke distance of approximately 1-2 inch wide strokes (one forward – one backward) per second as shown in (Figure 1).
6. Remove the strip and shake once, briskly, to remove excess water.
7. **Wait 30 seconds** for the test strip color to develop. While waiting, fold the white plastic handle of the strip under the reagent area aperture so that it provides a consistent viewing background (Figure 2). Position the reacted test strip pad behind the punched holes (view center of test strip pad through the hole in the color card).
8. **After the 30 second wait period**, immediately compare the strip color to the 481028 Method B color chart to determine the Chlorine Dioxide level in the sample.

#### Storage and Handling



- Store in a cool dry place out of direct sunlight below 90°F (32°C).
- The lot number and expiration date are printed on the lid. (month/year).
- Do not use a test strip after the expiration date. *The expiration date is through the last day of the month printed on the lid.*
- Do not allow the test strip to come in contact with liquids or work surfaces that may be contaminated with potentially interfering substances.
- Do not leave the test strips in areas exposed to vapors of any kind.
- Keep all unused test strips in the original bottle.
- Do not remove the desiccant pack from the container.



#### Warnings and Precautions

USE ONLY color cards that have been provided within the packaging of the product received. Known interferences with this test are oxidizers such as free chlorine, bromine, iodine, ozone, peracetic acid and some metals that will produce a brown tint. In addition to chlorine dioxide, it's important to note that chloramines and chlorine (total chlorine), continue to be added as treatment disinfection for drinking water by water treatment municipalities.