

## DROP TEST

### CALCIUM, MAGNESIUM & TOTAL HARDNESS (1 drop = 10 ppm)

**COMPONENTS:**

Quantity	Instruction
1 x 5774	Sample Tube, Graduated (25 mL) w/ cap & blue dot, plastic
1 x 9198B	Calcium Indicator Powder, 10 g
1 x R-0011P-I	Hardness Buffer, 2 oz w/ blue cap, DB
1 x R-0619B-C	Hardness Indicator Powder, 10 g w/ blue dot
1 x R-0620B-I	Calcium Buffer, 2 oz, DB
1 x R-0653-2-C	Hardness Reagent, 2 oz, DB

**TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE  
800-TEST KIT (800-837-8548).**

**PROCEDURE:**

**CAREFULLY READ AND FOLLOW PRECAUTIONS ON REAGENT LABELS.  
KEEP REAGENTS AWAY FROM CHILDREN.**

NOTE: When dispensing reagents from dropper bottles, **always** hold bottle in a vertical position.

**Calcium Hardness Test**

1. Rinse and fill 25 mL sample tube (#9198B) to 25 mL mark with water to be tested.
2. Add 10 drops R-0653-2 Calcium Buffer. Swirl to mix.
3. Add 1 level dipper R-0011P Calcium Indicator Powder. Swirl to mix. Sample will turn red (Fig. 1) if calcium hardness is present.
4. Add R-0683 Hardness Reagent dropwise, swirling and counting after each drop, until color changes from red to blue (Fig. 2).

5. Multiply drops of R-0683 Hardness Reagent by 10. Record as parts per million (ppm) calcium hardness as calcium carbonate ( $\text{CaCO}_3$ ).

**Total Hardness Test**

1. Rinse and fill 25 mL sample tube (#9198B) to 25 mL mark with water to be tested.
2. Add 5 drops R-0619B Hardness Buffer and 1 level dipper R-0620B Hardness Indicator Powder. Swirl to mix. Sample will turn red (Fig. 1) if hardness is present.
3. Add R-0683 Hardness Reagent dropwise, swirling and counting after each drop, until color changes from red to blue (Fig. 2).
4. Multiply drops of R-0683 Hardness Reagent by 10. Record as parts per million (ppm) total hardness as calcium carbonate ( $\text{CaCO}_3$ ).

**Magnesium Hardness Test**

1. Subtract calcium hardness (CH) from total hardness (TH). Record as parts per million (ppm) magnesium hardness (MH) as calcium carbonate ( $\text{CaCO}_3$ ).  
Formula:  $\text{TH} - \text{CH} = \text{MH}$ .



Fig. 1



Fig. 2



31 Loveton Circle, Sparks, MD 21152 USA  
800-TEST KIT (837-8548) • 410-472-4340