



**CHEM-TECH
INTERNATIONAL, INC.**

CALCIUM HARDNESS TEST

VERSENATE METHOD

REAGENTS/EQUIPMENT: 0847-24 10 mL BURET
9198 25 mL VIAL
R-0618-C HARDNESS REAGENT
R-0653-C CALCIUM BUFFER
R-0011P-J CALCIUM INDICATOR
0638 MEASURING SPOON

PROCEDURE:

1. If sample is turbid or contains visible suspended solids, filter through a medium grade filter paper.
2. Measure 25 mL of clear sample into a porcelain casserole.
3. Add 10 drops of **Calcium Hardness Buffer (R-0653)** and stir. Add 1 scoop of **Calcium Indicator Powder (R-0011P)** if the resulting solution is sky blue, record **Calcium Hardness** as 0. If the solution turns red or violet-purple, continue to step 4.
4. Titrate with **Hardness Reagent (R-0618)**, until the solution turns bright clear blue.

CALCULATION: If 25 ml sample was used, (mL versenate solution) X 40 = ppm
Calcium Hardness as CaCO₃.

If 10 mL sample was used, (mL versenate solution) X 100 = ppm
Calcium Hardness as CaCO₃.