



TREATING SOLUTIONS EVERY DAY

TOTAL HARDNESS TEST (VERSENATE METHOD)

REAGENTS/EQUIPMENT:	R-0619-C	TOTAL HARDNESS BUFFER
	R-0620-J	HARDNESS IND. POWDER
	R-0618-F	HARDNESS REAGENT
	#0847-24	10mL BURETTE
	#9198	25mL VIAL
	#0638	MEASURING SPOON
		INSTRUCTIONS

PROCEDURE:

1. If a sample is turbid or contains visible suspended solids, filter through a medium grade filter paper.
2. Measure 25mL of clear sample into porcelain casserole.
3. Add 4 to 6 drops of **Total Hardness Buffer (R-0619)**, and stir. Add 1 scoop of **Hardness Indicator Powder (R-0620)**. If the resulting solution is sky blue, record Total Hardness as 0. If the solution turns violet-purple, continue to step 4.
4. Titrate with **Hardness Reagent (R-0618)** until the solution turns bright, clear blue. Just before this happens the solution will usually become grey. This is not the end point. The grey color may be stirring after each addition to avoid over-titration.

NOTE: Sometimes, when a very large amount of versenate is used, the indicator will coagulate and the precipitate without changing color. If this happens, take a 10mL portion of sample, dilute to 25mL with stiller water and repeat test.

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

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

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