TITRATION TEST
CHLORIDE (1 mL = 1 mg)

COMPONENTS:

1 x 5339	**Instruction**
***1 x R-0629-35-E**	**Silver Nitrate N/35.5, 16 oz**
***1 x R-0629-71-E**	**Silver Nitrate N/71, 16 oz**
***1 x R-0629-58-E**	**Silver Nitrate N/58.4, 16 oz**
1 x R-0630-C	**Chromate Indicator, 2 oz, DB**
1 x R-0638O-C	**Phenolphthalein Indicator, 2 oz w/ orange cap, DB**
1 x R-0686O-C	**Sulfuric Acid N, 2 oz w/ orange cap, DB**

***Kit may only contain one of these reagents.**

APPARATUS REQUIRED FOR TEST:

Suitable burets, pipets, graduates, and flasks

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.

Chloride Test

NOTE: When sulfite content of sample water to be tested exceeds 10 ppm, the sulfite should be oxidized to prevent interference in test. A 25 mL water sample is first adjusted to the appropriate pH, then 1 mL (or 25 drops) of R-0649 Hydrogen Peroxide Solution (sold separately) is added and thoroughly mixed. Continue with the rest of the procedure.

1. Select sample size.

NOTE: The sample size will depend on the expected chloride content and reagent used.

Using R-0629-35 Silver Nitrate N/35.5 (1 mL = 1 mg chloride) or R-0629-58 Silver Nitrate N/58.4 (1 mL = 1 mg sodium chloride):
For a 50 mL sample, multiply by 20.
For a 25 mL sample, multiply by 40.
For a 20 mL sample, multiply by 50.
For a 10 mL sample, multiply by 100.

Using R-0629-71 Silver Nitrate N/71 (1 mL = 0.5 mg chloride):
For a 50 mL sample, multiply by 10.
For a 25 mL sample, multiply by 20.
For a 20 mL sample, multiply by 25.
For a 10 mL sample, multiply by 50.

2. Using a pipet, add water to be tested to flask.

3. Add 1 drop R-0638O Phenolphthalein Indicator. Swirl to mix. If sample is colorless, proceed to Step 4. If red, add R-0686O Sulfuric Acid N dropwise, swirling after each drop, until color changes from red to colorless.

4. Add R-0630 Chromate Indicator dropwise, swirling after each drop, until sample turns yellow. A few drops should be sufficient.

(OVER)

5. Titrate with Silver Nitrate (R-0629-35, R-0629-58, or R-0629-71) in buret, swirling constantly, until color just changes from yellow to a milky salmon (brick red). Record buret reading.

NOTE: A white precipitate will form as Silver Nitrate Reagent (R-0629-35, R-0629-58, or R-0629-71) is added to the sample. Do not add enough Silver Nitrate Reagent to give a brown color. First change form yellow to a milky salmon (brick red) is the endpoint.

6. Repeat Steps 2-4 using a blank containing the same volume of distilled or deionized water. Titrate to the same milky salmon (brick red) as in Step 5. Record buret reading.

7. Subtract blank reading (Step 6) from sample reading (Step 5). Multiply by chosen equivalence. Record as parts per million (ppm) chloride (Cl^-) or sodium chloride (NaCl), as appropriate.

NOTE: To convert ppm chloride (Cl^-) to ppm sodium chloride (NaCl), multiply by 1.65. To convert ppm to grains per gallon (gpg), divide by 17.1.

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