DROP TEST
P/M & P/T ALKALINITY (1 drop = 10 ppm)

Instr. #5067G

COMPONENTS:

1 x 5067G	**Instruction**
1 x 9198G	**Sample Tube, Graduated (25 mL) w/ cap & green dot, plastic**
1 x R-0637-C	**Methyl Orange Indicator, 2 oz, DB**
1 x R-0638G-A	**Phenolphthalein Indicator, .75 oz w/ green cap, DB**
1 x R-0645-C	**Total Alkalinity Indicator, 2 oz, DB**
1 x R-0687G-C	**Sulfuric Acid .12N, 2 oz w/ green cap, 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.

P/M Alkalinity Test

1. Rinse and fill 25 mL sample tube (#9198G) to 25 mL mark with water to be tested.

NOTE: For results in grains per gallon (gpg), fill to 14.6 mL mark.

2. Add 3 drops R-0638G Phenolphthalein Indicator. Swirl to mix. Sample will turn pink (Fig. 1) if P alkalinity is present—proceed to Step 3. If sample is colorless, proceed to Step 4.

3. Add R-0687G Sulfuric Acid .12N dropwise, swirling and counting after each drop, until color just changes from pink to colorless. Record drops as P reading.

4. Add 5 drops R-0637 Methyl Orange Indicator. Swirl to mix. Sample will turn yellow (Fig. 2).

5. Add R-0687G Sulfuric Acid .12N dropwise, swirling and counting after each drop, until color changes from yellow to orange (salmon pink) (Fig. 3). Record total drops (Steps 3 & 5) as M reading.

6. Multiply P reading by 10. Record as parts per million (ppm) P alkalinity as calcium carbonate. Multiply M reading by 10. Record as ppm M alkalinity as calcium carbonate.

NOTE: For 14.6 mL sample, record P reading as grains per gallon (gpg) P alkalinity as calcium carbonate. Record T reading as gpg T alkalinity as calcium carbonate.

(OVER)

Fig. 1

Fig. 2

Fig. 3

DROP TEST
P/M & P/T ALKALINITY (1 drop = 10 ppm)

P/T Alkalinity Test

1. Rinse and fill 25 mL sample tube (#9198G) to 25 mL mark with water to be tested.

NOTE: For results in grains per gallon (gpg), fill to 14.6 mL mark.

2. Add 3 drops R-0638G Phenolphthalein Indicator. Swirl to mix. Sample will turn pink (Fig. 4) if P alkalinity is present—proceed to Step 3. If sample is colorless, proceed to Step 4.

3. Add R-0687G Sulfuric Acid .12N dropwise, swirling and counting after each drop, until color just changes from pink to colorless. Record drops as P reading.

4. Add 5 drops R-0645 Total Alkalinity Indicator. Swirl to mix. Sample will turn green (Fig. 5).

5. Continue adding R-0687G Sulfuric Acid .12N dropwise, swirling and counting after each drop, until color changes from green to red (Fig. 6). Record total drops (Steps 3 & 5) as T reading.

6. Multiply P reading by 10. Record as parts per million (ppm) P alkalinity as calcium carbonate. Multiply T reading by 10. Record as ppm T alkalinity as calcium carbonate.

NOTE: For 14.6 mL sample, record P reading as grains per gallon (gpg) P alkalinity as calcium carbonate. Record T reading as gpg T alkalinity as calcium carbonate.

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Fig. 4

Fig. 5

Fig. 6

DROP TEST
CHLORIDE (1 drop = 10 ppm)

Instr. #5067O

COMPONENTS:

1 x 5067O	**Instruction**
1 x 9198O	**Sample Tube, Graduated (25 mL) w/ cap & orange dot, plastic**
1 x R-0630-C	**Chromate Indicator, 2 oz, DB**
1 x R-0638O-A	**Phenolphthalein Indicator, .75 oz w/ orange cap, DB**
1 x R-0687O-C	**Sulfuric Acid .12N, 2 oz w/ orange cap, DB**
1 x R-0706-C	**Silver Nitrate 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.

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. Rinse and fill 25 mL sample tube (#9198O) to 25 mL mark with water to be tested.

2. Add 2 drops R-0638O Phenolphthalein Indicator. Swirl to mix. If sample turns pink (Fig. 1), add R-0687O Sulfuric Acid .12N dropwise, swirling after each drop, until color changes from pink to colorless.

3. Add 5 drops R-0630 Chromate Indicator. Swirl to mix. Sample will turn yellow (Fig. 2).

4. Add R-0706 Silver Nitrate Reagent dropwise, swirling and counting after each drop, until color changes from yellow to milky salmon (brick) red (Fig. 3).

NOTE: Do not add enough R-0706 Silver Nitrate Reagent to give a brown color. First change from yellow to a milky salmon (brick) red is the endpoint.

5. Multiply drops of R-0706 Silver Nitrate Reagent by 10. Record as parts per million (ppm) chloride.

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Fig. 1

Fig. 2

Fig. 3

DROP TEST
TOTAL HARDNESS (1 drop = 10 ppm)

Instr. #5067B

COMPONENTS:

1 x 5067B	**Instruction**
1 x 9198B	**Sample Tube, Graduated (25 mL) w/ cap & blue dot, plastic**
1 x R-0619B-C	**Hardness Buffer, 2 oz w/ blue cap, DB**
1 x R-0620B-I	**Hardness Indicator Powder, 10 g w/ blue dot**
1 x R-0683-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.

Total Hardness Test

1. Rinse and fill 25 mL sample tube (#9198B) to 25 mL mark with water to be tested (Fig. 1).

2. Add 5 drops R-0619B Hardness Buffer. Swirl to mix.

3. Add 1 dipper R-0620B Hardness Indicator Powder. Swirl until dissolved. Sample will turn red (Fig. 2) if hardness is present.

4. Add R-0683 Hardness Reagent dropwise, swirling and counting after each drop, until color changes from red to blue (Fig. 3).

5. Multiply drops of R-0683 Hardness Reagent by 10. Record as parts per million (ppm) total hardness as calcium carbonate.

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Fig. 1

Fig. 2

Fig. 3

DROP TEST
SODIUM SULFITE (1 drop = 10 ppm)

COMPONENTS:

1 x 5067W	**Instruction**
1 x 9198W	**Sample Tube, Graduated (25 mL) w/ cap & white dot, plastic**
1 x R-0638W-C	**Phenolphthalein Indicator, 2 oz w/ white cap, DB**
1 x R-0699-C	**Iodide Iodate Reagent, 2 oz, DB**
1 x R-0725-I	**Acid Starch Indicator Powder, 10 g**

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.

Sodium Sulfite Test

NOTE: Sample must be cooled to less than 100ºF (38ºC) to prevent high test results. Sample must be protected from air contact while cooling to prevent low test results.

1. Collect water to be tested in a clean, preferably large-mouthed, bottle to overflowing. Immediately cap and cool to room temperature.

2. Rinse and fill 25 mL sample tube (#9198W) to 25 mL mark with cooled (room temperature) water to be tested (Fig. 1).

NOTE: For results in grains per gallon (gpg), fill to 14.6 mL mark.

3. Add 1 drop R-0638W Phenolphthalein Indicator. Swirl to mix. Sample will turn pink (Fig. 2).

4. Add R-0725 Acid Starch Indicator Powder a dipper at a time, swirling after each dipper, until color changes from pink to colorless. Add 2 more dippers. Swirl until dissolved.

5. Add R-0699 Iodide Iodate Reagent dropwise, swirling and counting after each drop, until sample changes from colorless to a faint but permanent blue (Fig. 3).

6. Multiply drops of R-0699 Iodide Iodate Reagent by 10. Record as parts per million (ppm) sodium sulfite.

NOTE: For 14.6 mL sample, record drops as grains per gallon (gpg) sodium sulfite.

NOTE: For results as sulfite, multiply sulfite concentration by 0.64.

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Fig. 1

Fig. 2

Fig. 3