

Taylor's Boiler & Cooling Water Test Kits

INTRODUCTION

To prevent corrosion and scale in boiler and cooling water systems, it is essential to **analyze both the natural impurities of the source water and the treated water's characteristics**. The analytes most commonly tested are alkalinity, chloride, hardness, nitrite, pH, silica, and sulfite. Additives such as EDTA and other chelants, molybdenum, phosphates, phosphonates, and polyacrylic acid-based polymers are also routinely monitored.

Kits **come complete** with all necessary reagents and equipment.

COMBINATION KITS

The K-1645 variations are our **most popular** combination kits:

K-1542

M alkalinity, total hardness*

K-1645

P/M & P/T alkalinity, chloride, orthophosphate, pH, sulfite, total hardness*

K-1645-1

P/M & P/T alkalinity, orthophosphate, sulfite, total hardness*

K-1645-2

P/M & P/T alkalinity, chloride, total hardness*

K-1645-3

P/M & P/T alkalinity, sulfite, total hardness*

K-1645-5

P/M & P/T alkalinity, chloride, orthophosphate, sulfite

K-1645-6

P/M & P/T alkalinity, chloride, sulfite, total hardness*

For the **small boiler** operator:

K-1640

P/T alkalinity, chloride, sulfite, total hardness*

For **high-pressure steam boilers** and **open cooling systems**:

K-1680

P/T alkalinity, chloride, nitrite, phosphonate, sulfite, total hardness*

For **boilers and cooling systems using polymers** for scale prevention and sludge control:

K-1190

0–10 ppm polymer as PAA (polyacrylic acid)

* includes inhibitors to prevent metal interference



Taylor's orthophosphate test using the 2-Standard™ comparator (shown above in K-1645-1) is trusted by water analysts industrywide.

USER BENEFITS

- Midget™ comparators (using eight liquid-color standards) are the **economical alternative when color and turbidity are not present**.
- 2-Standard™ comparators (using two liquid-color standards) **monitor a parameter between an established minimum and maximum**.
- **Color Cards** are laminated to protect the printed-color standards from water and chemicals.
- Titrations do not require the ability to match colors, only the ability to see the **permanent color change** at the end-point of the reaction.
- **Waterproof instructions** are printed on plastic-impregnated paper that resists fading and tearing.
- **Color coding** of reagent caps to instructions helps prevent mishaps.
- **Picture guides** to color transitions in the test reassure new users.
- Custom-molded, durable plastic cases provide **safe storage** for all tests.
- **Proven chemistries** are based on *Standard Methods for the Examination of Water and Wastewater*, APHA, Washington, DC, and/or *American Society for Testing and Materials*, ASTM, Philadelphia, PA. Some methods use proprietary chemistry developed by Taylor Technologies.

ALSO AVAILABLE

- Myron L Company portable instruments and calibration solutions (sold separately).
- **Microbial tests** from Easicult® and Sani-Check®.
- Syringe filtration system (#9803) which employs specially-sized filter discs to remove colloidal color or turbidity.
- SampleSizer® for 10/25 mL test volumes (#6190) and SpeedStir® magnetic stirrer (#9265) save time for frequent testers.
- **Demineralizer bottle** (8 oz.) containing an ion-exchange resin that changes color when it needs replenishing (R-0804-DD).
- A wide array of single- and multiparameter kits featuring color-matching and/or drop-count tests.
- Taylor's TTI® Colorimeter (M-3000); test 30+ parameters commonly encountered in commercial and industrial settings and transfer results to a PC database.
- Testing supplies and kit replacement parts (e.g., burets, flasks, test tubes, and test cells).
- **Video demonstrations** for new users posted on our website.
- Toll-free technical assistance at **800-TEST KIT**.

REPRESENTATIVE TEST PROCEDURE

Reproduced from K-1645 instruction:

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 (CaCO₃). Multiply M reading by 10. Record as ppm M alkalinity as CaCO₃.

NOTE: For 14.6 mL sample, record P reading as grains per gallon (gpg) P alkalinity as calcium carbonate (CaCO₃). Record T reading as gpg T alkalinity as CaCO₃.




Fig. 1




Fig. 2




Fig. 3

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 (CaCO₃). Multiply T reading by 10. Record as ppm T alkalinity as CaCO₃.

NOTE: For 14.6 mL sample, record P reading as grains per gallon (gpg) P alkalinity as calcium carbonate (CaCO₃). Record T reading as gpg T alkalinity as CaCO₃.




Fig. 4




Fig. 5




Fig. 6

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