

Taylor's Solution to Potassium Monopersulfate Detection

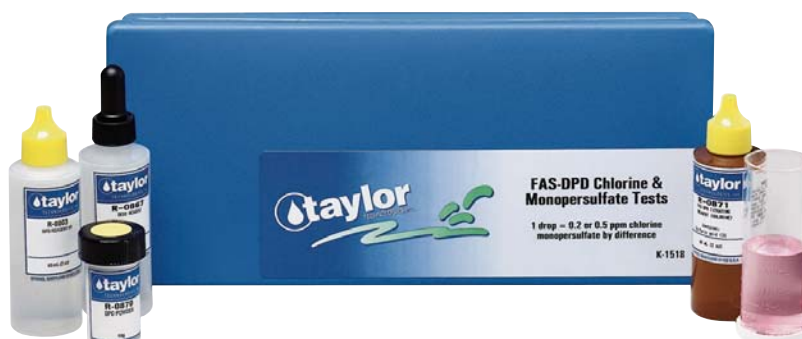
INTRODUCTION

Potassium monopersulfate (such as Dupont's Oxone®) is widely used in chlorine-sanitized pools and spas to reduce the load of organic contaminants, thereby making more of the chlorine available for disinfection. While it is a quick and effective cleansing agent, **this oxidizer has one drawback: it interferes with both DPD (liquid and tablet) and FAS-DPD chlorine tests.** Some pools even have been closed because of high combined chlorine (chloramine) readings when, in fact, the high readings were the result of interference from the monopersulfate shock treatment used.

Conversely, **chlorine will interfere with most tests for potassium monopersulfate**, since both are strong oxidizers. Pools utilizing certain alternative sanitizers, such as mineral purification systems, rely on monopersulfate to destroy organic contaminants, but even the low residual of chlorine maintained in these pools makes getting a true monopersulfate reading problematic.

A solution is now at hand. In cooperation with DuPont, Taylor has developed a method to distinguish between the levels of free chlorine, combined chlorine, and the monopersulfate compound in the water. Taylor's drop-test kit K-1518 contains "**deox reagent**" to eliminate monopersulfate interference in the chlorine test. It employs FAS-DPD to determine free and combined chlorine levels. Using this product, pool managers, service technicians, and homeowners can also monitor the level of potassium monopersulfate in the water with confidence.

Complete™, Service Complete™, Professional™, and Professional Complete™ users may add deox reagent to their existing kits to eliminate interference from monopersulfate shock treatments



Taylor's K-1518 drop-test kit was developed in concert with DuPont to measure free and combined chlorine accurately in the presence of monopersulfate shocking agents.

when testing chlorine. **Deox reagent will work with Taylor's liquid DPD and FAS-DPD tests.**

DEOX PRODUCTS

K-1518

Drop tests measuring free & combined chlorine & monopersulfate; 1 drop = 0.2 ppm chlorine, 1 drop = 0.2 ppm monopersulfate compound as chlorine

K-2041

"Deox" reagent pack, for kits with three-quarter-ounce reagents, to eliminate interference from monopersulfate in the chlorine test

K-2042

"Deox" reagent pack, for kits with two-ounce reagents, to eliminate interference from monopersulfate in the chlorine test

USER BENEFITS

- Eliminates false chlorine readings due to interference by potassium monopersulfate shock treatments.
- The level of potassium monopersulfate can **itself** be monitored with accuracy.
- Drop tests utilize a color change to signal the endpoint — **no need to use complicated formulas** to determine final values.

- Test kit is **portable** for field testing.
- **Kit** contains all necessary reagents and equipment. **Reagent packs** contain the add-on test only.
- Instructions are printed on waterproof, plastic-impregnated paper that **resists fading and tearing.**
- The K-1518's custom-molded, durable plastic case provides **safe storage.**
- **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

- Complementary combination test kits with either three-quarter-ounce or two-ounce reagents.
- Individual replacement reagents.
- Other testing supplies and replacement parts (e.g., burets, flasks, test tubes, and test cells).
- Toll-free technical assistance.

the most trusted name in water testing



Taylor Technologies, Inc.
410-472-4340
800-TEST KIT (837-8548)
www.taylortechnologies.com

REPRESENTATIVE TEST PROCEDURE

Reproduced from K-1518 instruction:

DROP TEST

**FAS-DPD CHLORINE (FREE & COMBINED) (1 drop = 0.2 ppm)
MONOPERSULFATE COMPOUND (1 drop = 0.2 ppm as chlorine)**

COMPONENTS:

| | |
|------------|---|
| 1 x 4030 | Pipet, Calibrated 0.5 & 1.0 mL, plastic w/cap |
| 1 x 5806 | Instruction |
| 1 x 9198 | Sample Tube, Graduated, 25 mL, plastic w/cap |
| 1 x R-0003 | DPD Reagent #3, DB |
| 1 x R-0867 | Deox Reagent |
| 1 x R-0870 | DPD Powder |
| 1 x R-0871 | FAS-DPD Titrating Reagent (chlorine), DB |

TO ORDER REPLACEMENT PARTS AND REAGENTS CALL TOLL-FREE 1-800-837-8548.

PROCEDURE:

**CAREFULLY READ AND FOLLOW PRECAUTIONS ON ALL REAGENT LABELS.
KEEP REAGENTS AWAY FROM CHILDREN.**

NOTE: This procedure will selectively determine free chlorine, combined chlorine, and monopersulfate (not persulfate). To determine monopersulfate it is first necessary to determine both free and combined chlorine, if present.

Chlorine (Free, Combined) Test

1. Rinse and fill sample tube to 25 mL mark with water to be tested.
2. Add 1 heaping dipper R-0870 and QUICKLY swirl to mix. IMMEDIATELY add 1.0 mL R-0867 and QUICKLY swirl to mix. Sample will turn pink if free chlorine (FC) is present.
3. Add R-0871 dropwise, swirling and counting after each drop, until color changes from pink to colorless. Always hold bottle in vertical position. Number of drops is (Reading A). IMMEDIATELY add 10 drops R-0003. Swirl to mix. WAIT 1 MINUTE. Sample will turn pink if combined chlorine (CC) is present.

Instr. #5806

4. Add R-0871 dropwise, swirling and counting after each drop, until color changes from pink to colorless. Number of drops is (Reading B).
5. Multiply (Reading A) by 0.2. Record as ppm free chlorine (FC). Multiply (Reading B) by 0.2. Record as ppm combined chlorine (CC).

Monopersulfate Compound Test

1. Rinse and fill sample tube to 25 mL mark with water to be tested.
2. Add 1 heaping dipper R-0870. Swirl until dissolved.
3. Add 10 drops R-0003. Swirl to mix. WAIT 1 MINUTE.
4. Add R-0871 dropwise, swirling and counting after each drop, until color changes from pink to colorless. Always hold bottle in vertical position.
5. Multiply drops of R-0871 by 0.2. Record as ppm total oxidizer (TO).
6. To calculate ppm monopersulfate compound (MC) as chlorine: $MC = TO - (FC + CC)$. Record as ppm.

NOTE: A negative value for MC may be obtained when MC is zero (0) or very low (0-0.4 ppm as chlorine). This is caused by variables such as sample measurement, drop variation, etc.

NOTE: Refer to manufacturer's instructions for proper monopersulfate adjustment.



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