

Taylor Kits for Algae Control in Pools

INTRODUCTION

Where does algae come from? Everywhere. Algae spores are in the wind, and in rain. They can be in the water supply used to fill the pool (or spa). They can leapfrog from one pool to another via a swimsuit or pool brush. Once in the pool, surrounded by all their favorite things—water, light, heat, and nutrients such as carbon, nitrogen, and phosphate—the spores begin to bloom and multiply.

In no time, tinted water progresses to murky. Solid patches float on the water and adhere to the vessel walls. Surfaces become dangerously slippery.

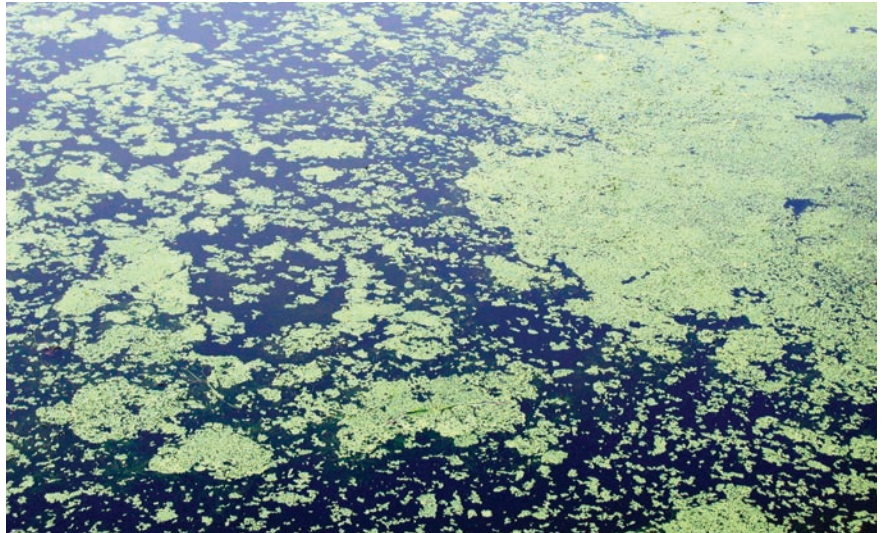
Bacteria and other potentially harmful microorganisms find shelter in these algae colonies. The pool's chemistry goes totally out of whack and the filter clogs. No one wants to swim.

Whether green, yellow, or black algae, three words describe these one-celled invaders: everywhere, opportunistic, and resilient. Their nature destines pool owners, operators, and service professionals to a constant battle that can never be won, only reduced in scale. However, **water that's properly sanitized and chemically balanced** (meaning its pH, total alkalinity, and calcium hardness are acting in harmony to prevent scale and corrosion) **is less hospitable to algae than problem water.**

KITS FOR ALGAE CONTROL

Taylor offers a wide variety of kits for analyzing **sanitizers and oxidizers**, as well as the **elements of water balance**. Please refer to our website for more information on testing chlorine, cyanuric acid (chlorine stabilizer), bromine, biguanide, ozone, monopersulfate shock, pH, alkalinity, and hardness. The products described in this flier are meant to be used in conjunction with these standard tools for pool water management.

the most trusted name in water testing



Green algae: relentless enemy of sparkling clean pool water.

Quats and Polyquats

Quaternary ammonium compounds (commonly referred to as “quats” or abbreviated as QAC) are organic nitrogen substances that kill algae by disrupting the function of their cell membranes. **Quats work best on green algae.** They're the least expensive and best-selling algacides but they tend to foam, especially in spas.

Their structurally longer cousins, the polyquats, are surface-active chemicals too, killing algae by adhering electrostatically to their outer membrane—picture metal filings clinging to a magnet. Although pricier than quats, **polyquats affect all algae types**, particularly when a vigorous brushing precedes their application, and they work very well with chlorine and bromine compounds. Polyquats will also act as a floccing agent for other organic matter.

Test quat and polyquat levels with the drop-count test below that most closely corresponds to the range of the algacide in use:

K-1582

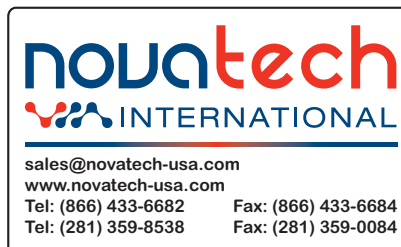
1 drop = 10 or 25 ppm QAC/
1 drop = 3.5 or 9 ppm polyquat

K-9065

1 drop = 1.25 ppm QAC/
1 drop = 0.5 ppm polyquat



A distinct transformation in the color of the treated water sample from light blue to violet-pink signals the endpoint of the reaction. K-1582 shown.



Taylor Technologies, Inc.
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Phosphate Removers

Remove phosphate and you remove one of algae's primary food sources. Phosphates enter pool water from the natural environment (lawn runoff, leaves, and seeds are three sources), from municipal water supply lines treated with an orthophosphate corrosion inhibitor, from the chemical breakdown of sweat and urine, from bathing suits washed with certain laundry detergents, and even from some pool chemicals like tile cleaner. Manufacturers of phosphate removers claim **algae can begin to thrive above 125 parts per billion of orthophosphate**, the form of phosphate that results from the breakdown of more complex phosphorous compounds. Taylor's phosphate test kit measures this elementary "free" form. Users match the developed color to a waterproof color chart:

K-1106

Printed-color standards = 0, 50, 125, 250, 500, ≥ 1000 ppb PO_4



For commercial use only: the reagents in the K-1106 are not appropriate for use by homeowners.

Copper-based Treatment Chemicals

Copper is a proven algaecide (killer) and algaestat (preventive). Copper salts deposited on pool walls cause a noticeable blueing. In the presence of a strong oxidizer, like chlorine, they can convert to cupric oxide, leaving a grey-to-black stain. Most formulas on the market today include a chelating

agent to keep the metal from precipitating out of solution under normal operating conditions. Care still must be taken to maintain balanced water and to follow dosage directions, keeping the copper at the algaecide manufacturer's recommended level (generally below 1 ppm).

To avoid stains, monitor the copper concentration with a simple color-matching test that employs the Midget™ comparator:

K-1738

Midget liquid-color standards = 0.2, 0.4, 0.6, 0.8, 1.0, 1.5, 2.0, 3.0 ppm Cu



Matching the blue of the treated water sample to one of the eight liquid-color standards in the K-1738's Midget comparator is easy.

Copper/Silver Ionization

Ionizers pass a low-voltage current between two electrodes to produce small positively charged particles ("ions") of copper and silver that act as a potent biocide at even trace levels. Reportedly, copper is most effective against yellow (mustard) algae; silver, against black algae.

Ionization systems are designed so that only the copper-ion level needs monitoring; when it is correct, the silver level will be too. Our kit for low-level copper employs printed-color standards:

K-1730

Printed-color standards = 0.05, 0.15, 0.3, 0.5, 0.7, 1.0 ppm Cu

When the ionization method is employed, **the water's pH should be kept between 7.2 and 7.4 to prevent metal stains**. All of Taylor's combination test kits for analyzing pool water contain a pH test in this range. The Myron L ULTRAPEN™ PT2 (#6556) that we carry is also handy for testing pH.

Some manufacturers of ionization systems also recommend **keeping total dissolved solids (TDS) at 500 ppm or higher to enhance conductivity**. TDS can be tested with either a drop test or a handheld meter:

K-1764

Drop test, 1 drop = 50 ppm TDS as $CaCO_3$

K-6542

Myron L meter 512T5D, 0–5000 ppm TDS; 0–5000 ppm NaCl (salt)

6555

Myron L ULTRAPEN™ PT1, 1–9999 ppm TDS; 0.0010–9.999 ppt salinity



K-6542 contains Myron L Company's popular TDS/salt meter and the Taylor reagents you know and trust.

ALSO AVAILABLE

- A wide range of testing products for professional and homeowner use, ranging from simple two-way (pH and sanitizer) liquid test kits, to dip-n-read test strips for multiple parameters, to portable laboratories for comprehensive analysis, to specialty tests such as iron and monopersulfate (non-chlorine) shock.
- Replacement reagents and components for all kits.
- Toll-free technical assistance at **800-TEST KIT**.
- Computerized water analysis at www.taylortechnologies.com.