



Aquatic Consulting Services

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Pool Tip #38: Algae

Algae is a waterborne plant introduced into pools by swimmers, make-up water, rain, wind and windborne debris. Although most types of algae are not harmful to swimmers, algae does cause problems when allowed to grow in a swimming pool. Algae gradually removes carbon dioxide from the water in order to manufacture food, and may cause a dramatic rise in pH. Pool water may become turbid, cloudy, or discolored. Pool surfaces can become slippery from a noticeable algae growth on the pool bottom or walls. Algae is a higher organism that may harbor pathogens or disease causing bacteria. Chlorine demand may be high as chlorine is used in an attempt to kill or control algae growth. Pools filled with algae may give off unpleasant odors.

To control algae growth, maintain adequate chlorine and oxidation reduction potential levels, keep the water circulating continuously, make sure you have a uniform circulation pattern and absence of dead spots in the pool, superchlorinate as needed when the combined chlorine level exceeds 0.2 ppm, and scrub or brush pool walls to prevent algae from adhering. If problems persist, you may need to use commercially prepared algaecides or algaestats to keep algae growth under control. Ask a pool service professional for advice on selecting an appropriate algaecide. Some algaecides are more effective against a particular type of algae, and some are more appropriate for use in pools or in spas.

If you continue to have serious algae problems, you may want to monitor nitrate levels more closely, and try to determine the source of contamination. Nitrates stimulate plant growth, and when high levels of nitrates (greater than 25 ppm) are present in pool water, uncontrolled algae growth often occurs even though unaccountably large amounts of chlorine are being used. Nitrates are introduced into pools from: fill water in areas where fertilizer has worked its way down into the ground water, contaminated reservoirs or wells, rain, fertilizers or grass blown into the pool from the adjoining landscaping, human or animal urine or fecal matter, and bird droppings. To lower pool nitrate levels, try shocking the pool with chlorine to over 30 ppm, or partially drain and refill the pool with water which is not contaminated with nitrates.

Also, keep phosphates in pool water below 125 ppb. Phosphates are introduced to pool water through bather urine and sweat, laundry detergents, leaves, dirt, and other organic wastes. If phosphate levels are too high, uncontrollable algae growth will result. To prevent algae growth, remove phosphates by adding a product like lanthanum carbonate. An insoluble lanthanum phosphate will form and precipitate the phosphate compounds out of the water solution. Then, vacuum or filter the precipitate out of the pool.

Algaecides

Quaternary ammonium salts (quats)

Wetting agent which decreases water surface tension so positively charged algaecide is attracted to negatively charged algae which disrupts algae cell membranes and suffocates the algae plant

Chelated copper salts

Copper based algaecide with a sequestering agent kills algae by blocking the formation of enzymes needed by algae for metabolism

Silver based colloidal algaecides

Small suspended silver particles prevent algae from feeding or breathing

Polyquats

Non-foaming positive charged polymer algaecide with a stronger charge than quats which disrupts the algae membrane and suffocates algae. Also works as a clarifier. Best choice for aerated spas, fountains or water features.

Granular trichloro-s-triazinetrione

Stabilized chlorine product most effective against black algae when applied directly on the algae

Chlorine enhancers (ammonium sulfate)

Forms combined chlorine in quantity to act as an algaecide. May contain sodium bromide. Most effective against mustard algae.

Blue colorants

Used to aesthetically enhance the appearance of water, control aquatic weeds and algae, and obscure machinery or objects below in amusement rides. Can be used in ponds, lakes, fountains, water features, and water rides, and water used for irrigation. They are non toxic and not harmful to bird, fish, animals, or the environment, but should not be used in water intended for human consumption. They should not be used in swimming pools or body contact recreational water lakes because they will obscure vision below the water surface, and chlorine will degrade it. Caution: Do not handle with wet hands. There is a possibility of staining during application, but there is no threat of staining once dispersed. Store in a cool, dry location.