

Phosphate Facts

Question: I'm worried because my dealer told me that phosphates will cause algae to grow in my pool. I noticed that some of your products contain phosphonic acid. Is this a phosphate, and will it cause algae in my pool? My dealer checked my phosphate level and said I had a high reading.

Answer: It is common knowledge that orthophosphates can contribute to algae growth, but there must also be other factors such as the presence of nitrates for algae to actually grow. Some of our sequestering products contain phosphonic acid, as we clearly state on their back panels. Our sequestering products are highly chlorine tolerant and therefore do not easily degrade into orthophosphates. Additionally, since maintaining proper levels of sanitizer will kill algae, it is only telling "part of the story" to imply that the presence of phosphates, and even orthophosphates will lead to algae. Naturally, respected federal regulatory agencies such as the EPA monitor products that favor marketing gimmicks over telling a complete story, so you may want to check the "small print" on any products that imply that eliminating phosphates will create algae-free water; if they are in compliance you will also see that it is the presence of normal sanitizer levels that actually prevent algae growth.

Fact: The combination of nitrate and phosphate is the building block for algae. Fortunately, if one is eliminated the other cannot produce algae on its own. Large amounts of nitrates can cause other problems, such as increases in chlorine demand. For example, an enormous amount of chlorine is added in the morning, and is gone by the afternoon. This occurrence is more common in seasonal pools that have just been reopened because nitrates can enter the water from leaves or debris that were recently removed. Other sources of nitrate intrusion come from well water supplies and localized spraying of garden or crop fertilizers.

Fact: Since nitrates can only be removed by draining the water, some manufacturers have focused on removing the other algae nutrient, phosphate. A variety of phosphate removal systems have been introduced to eliminate the potential for algae. Phosphates can enter the water from municipal water supplies (where they are used for corrosion and metal control) and from some forms of metal sequestering agents (as the organic phosphate called phosphonate breaks down to ortho-phosphate). By maintaining a constant level of 1.0 ppm or higher of free chlorine in the pool or spa, algae should normally not be a problem.

Question: I've been told that the reason I cannot hold chlorine in my pool is because of a high phosphate level.

Answer: Polyphosphates act as sequestering agents to reduce stains, discoloration, and rusty water caused by oxidized iron and manganese from the water source. They also inhibit formation of calcium and magnesium carbonate scale from hard water supplies. Treatment with these products holds scale causing minerals in solution by tying up the soluble metals in water systems. Sequestering agents also gradually remove existing scale buildup to improve water quality and flow rates. By sequestering raw water minerals at the source, the demand for chlorine is reduced, resulting in less chlorine consumption and improved water quality.

Fact: Most sequestering agents are phosphonate based products (or polyphosphates) which are designed to gather metals/minerals into a filterable particle and trap these particles in the filter. Phosphonates can degrade into orthophosphates by exposure to chlorine and the UV rays of the sun, but this "filtration" usually occurs four times faster than the degradation from sunlight. Again, our sequestering agents are also highly chlorine tolerant, which should eliminate any further concern for creating orthophosphates.
