

## A revolutionary recreational water additive

### Change the way you approach your swimming pool water treatment

Whether blended into an existing formulation or fed as a stand-alone product, **BPS 3556** will make you rethink what products you are using and why. Designed for use in recreational water systems, BPS 3556 reduces the phosphonate-oxidizer reaction, extending the life of both components in the system.

- U.S. Patent Number - 7,252,769

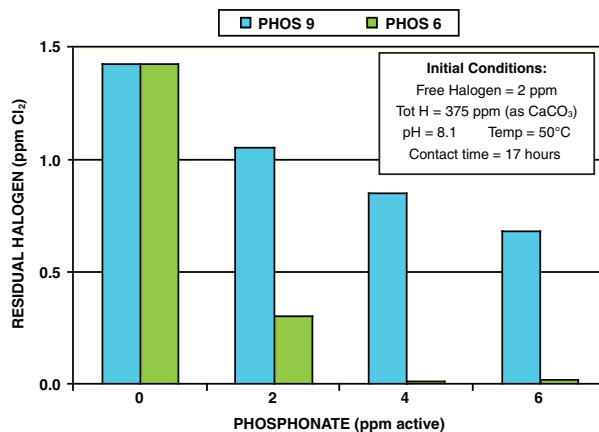
From the environment, phosphates are continuously introduced in the pool. Leaves, soils, gardening products including fertilizers and plant spray, pets, insects and human skin are sources of phosphates. Some chemicals also add phosphates. All of these can, therefore, contribute phosphate nutrient factors.

Although BPS 3556 helps remove phosphates from the water, it does not kill algae. An algaecide is still needed. Continuing regular applications of chlorine bromine and WSCP (polyquat) will help prevent algae and algal blooms from developing.

#### Swimming pool systems

While not an issue when proper sanitizer levels are maintained, the buildup of inorganic phosphates, specifically orthophosphate, can lead to an increased risk of algal blooms in pools and spas. Phosphates enter the pool through a variety of sources, including but not limited to fertilizers, plant litter, and human and animal wastes. In addition, organic phosphonates are widely employed to prevent metal staining and scale formation in recreational water systems. It has been known for years that water treatment phosphonates such as PHOS 9 and PHOS 6 (PBTC and HEDP) exhibit a chlorine demand, thereby reducing free available chlorine (Figure 1). Such a reaction reduces the amount of available oxidant, and reduces or eliminates the phosphonate from the system. BPS 3556 reduces the degradation of these applied organic phosphonates into inorganic phosphates, thereby reducing the buildup of phosphate in the water. In addition, BPS 3556 reacts with the naturally occurring fugitive phosphates in the water column, eliminating their bio-availability to algae. Figure 4 illustrates how the addition of BPS 3556 inhibits the degradation of PHOS 6 in chlorinated waters, while Figure 5 illustrates phosphate level reductions. (Figures 4 and 5 are found on the back page.)

Figure 1. Reduction of Chlorine Exposed to PHOS 9 and PHOS 6



**BPS® 3556** also extends the life of oxidizing sanitizers added to or generated in the pool or spa. As stated, BPS 3556 reduces the oxidant-phosphonate reaction, thereby extending the life and functionality of both products in the pool. BPS 3556 also acts to prevent iron and manganese stains in the pool.

Figure 2 illustrates the effects on chlorine and PHOS 6 when exposed to each other with and without BPS 3556 addition. Tests show that both chlorine and HEDP residuals remain higher in the samples treated with BPS 3556. Similar results can be expected when using other phosphonates such as PHOS 9.

In addition to reducing the oxidant-phosphonate reaction, BPS 3556 acts to prevent iron and manganese deposition. Figure 3 shows how just 2.5 ppm BPS 3556 leads to 85% MnO<sub>2</sub> inhibition.

BPS 3556 is completely water soluble and can be easily blended into existing recreational water formulations to protect their functionality once applied. Alternatively, BPS 3556 can be fed straight to the system as needed.

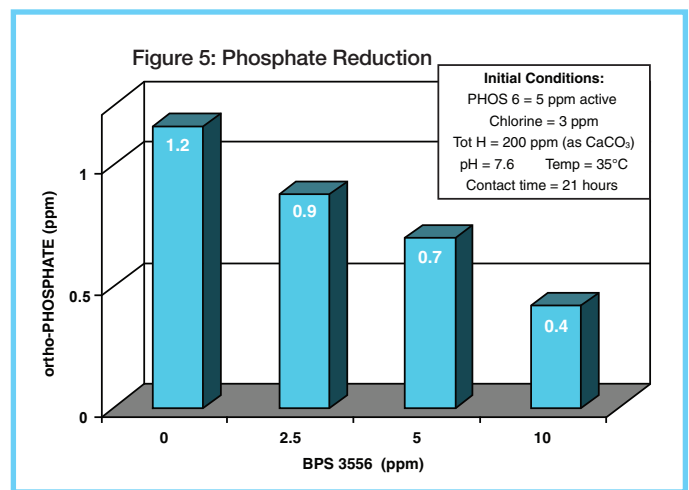
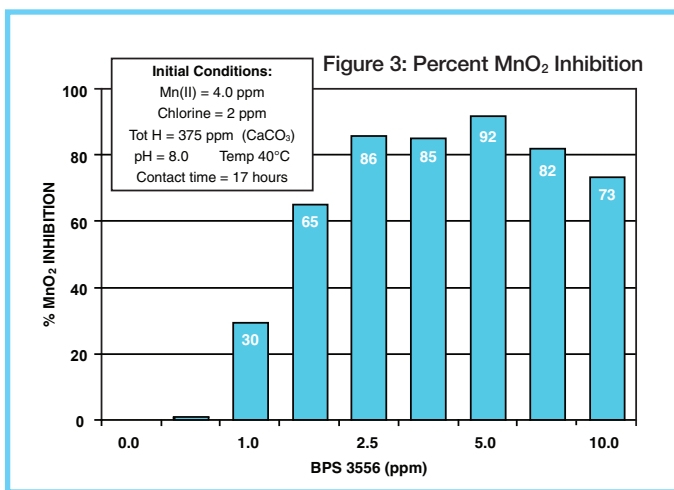
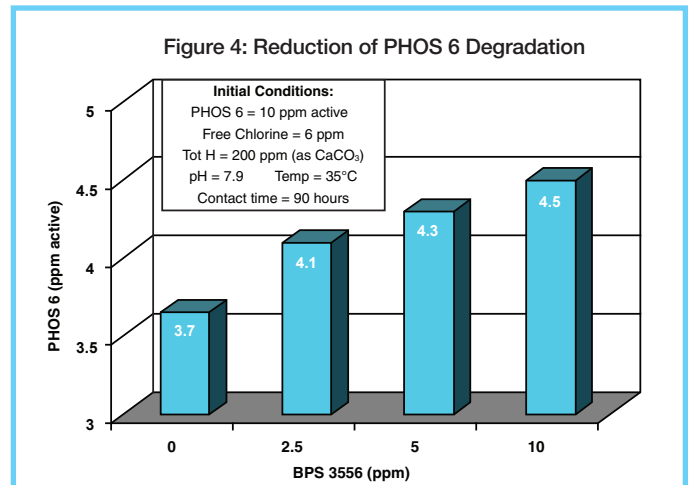
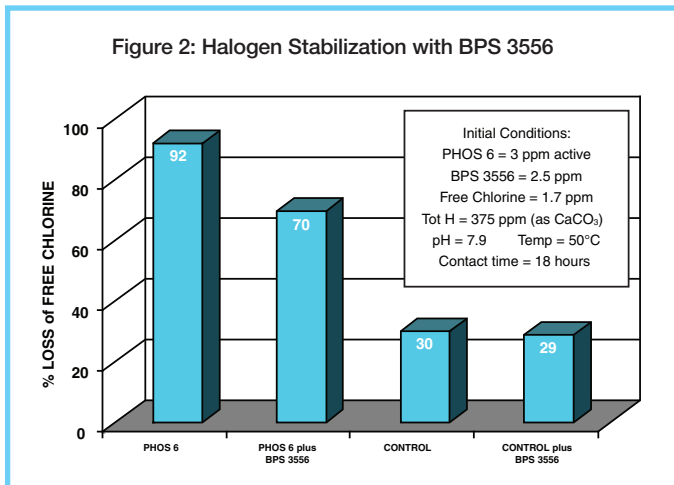
### Application information

BPS 3556 should be fed with the goal of maintaining 0.5 to 1.0 ppm in the system. When used to render phosphate

nonbioavailable to algae, BPS 3556 should be fed at a ratio of 7.4 parts BPS 3556 to 1.0 part orthophosphate (add 1.4 fluid oz. BPS 3556 per every 200 ppb orthophosphate). Your Buckman representative can assist you in calculating feed rates and amounts to be added to existing formulations.

### Packaging and Handling

BPS 3556 is a water-soluble liquid available in 5-gallon pails, 55-gallon drums, or 275-gallon tote bins.



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