

Phosphate Removal Process

What are Phosphates? What harm do they do?

Phosphates are the naturally occurring form of the element phosphorous, found in many phosphate minerals. In ecological terms, phosphate is a very important resource as its availability can govern the rate of growth of organisms (especially in fresh water systems). In other words, phosphate is often the determining factor in whether microorganisms like algae and bacteria grow. This important characteristic makes them undesirable in hot tub water as they can 'fuel' a microbial infestation (biofilm). In addition, the presence of phosphates can create a significant demand for sanitizers like bromine and chlorine as oxidizers like these will attempt to break phosphates down. Phosphates will also combine with calcium ions in the water as it heats to form a calcium phosphate complex, leading to scale formation and dull water. In salt-water hot tubs, phosphate can coat the electrodes of the device, preventing the efficient production of chlorine or bromine or cause scale to form on the electrode. **Phosphates provide no useful benefit but can make successful water management problematic and costly.**



Phosphate Removal:

1. Have your hot tub water tested by your **Dazzle™** professional to determine the quantity of phosphate present. Levels greater than 100 ppb are considered significant enough to cause issues as highlighted above.
2. Prior to treating the hot tub to remove phosphates, ensure the water is properly balanced with specific focus on the total alkalinity and pH. Ensure both are properly balanced prior to commencing treatment.
3. To ensure phosphates are efficiently removed, it is recommended that your filter cartridge be cleaned prior to treatment with **Dazzle™ Filter Cleanse**, as per label directions.
4. Apply **Dazzle™ Phos Cleanse** at the rate of 1 litre per treatment. Shake well before applying and add into the skimmer or directly in front of the suction plate. Ideally, the product should be added in such a way that it goes directly to the filter cartridge. Each 1 litre application of **Phos Cleanse** will remove approx. 800 – 1,000 ppb of phosphate from your water. Water may go cloudy immediately after application but will clear over time.
5. Run your pump and filter for a minimum of 4 – 6 hours per day while **Phos Cleanse** is in the filter cartridge.
6. 48 hours after application, remove the filter cartridge(s) and rinse with water using a garden hose and moderate pressure. Never use a pressure washer to rinse your filter cartridge(s) as this can cause damage.
7. Repeat applications of **Phos Cleanse**, if necessary, based on the phosphate level to be removed.
8. Once treatments with **Phos Cleanse** are complete, clean your cartridge with **Filter Cleanse**, following label directions.

Prevention:

- Avoid the use of products which contain phosphates or are phosphate-based (i.e. certain stain and scale control products contain Phosphonic Acid, which reverts to orthophosphate after oxidation).
- Should your fill water contain a phosphate residual, you can treat periodically with **Dazzle™ Phos Cleanse** following the instructions above, to maintain a level that is not problematic.

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