

AURORA

APPLIED WATERBORNE TECHNOLOGIES, INC.

ONE SHOT CALCIUM REMOVER

The following is the procedure for the de-calcification of pools/spas using the Aurora *One Shot* Calcium Descale Kit:

Safety Notes: Please have signage or markings around pool area for “no swimming” and notify pool owners of the “no swimming restriction” during this cleaning process. Also follow proper safety procedures and when using chemicals in this process, refer to MSDS sheets for complete details.

Tools Required: Digital pH Meter (required for accurate pH readings, test strips are not accurate enough for process)

General Notes:

Combination Pool & Spa Facilities: If both pool and spa need cleaning, do them separately. Bi-pass heater unit when doing this descale process. Remove any ornamental, decorative or convenience items from pool.

Descale Process Steps:

1. Optional Step: If you want to remove calcium from any tile or plaster surface above the current water level, please add additional water to reach these areas, if adding only a few inches. You can start adding the extra water and move on to the next steps listed below.
2. To monitor the cleaning progress, identify the worst calcium build-up areas on the pool plaster surface for easy visual progress checking. This will verify the calcium has been removed from most or all of the pool surfaces. Please check entire pool surface to end cleaning process. The exact time is dependent on the amount of calcium on the surface.
3. Check the pH of pool prior to beginning the process. Adjust the pH neutral range of 7.2 – 7.6 before starting Descale process.
4. Follow guidelines below for proper procedure to achieve the optimal pH range benchmark. (Cleaning range = 3.0 to 3.2 pH)
5. Calculate pool size in gallons.
6. Add one gallon of *One Shot Calcium Encapsulation Solution* to the main skimmer of the pool and allow to disperse throughout pool for 15 minutes. (This may vary depending on the pool pump size.) Note: Use one gallon of the *Calcium Encapsulation Solution* for any pool that has from 15,000 to 35,000 gallons of water. Do not prorate the dosage if it is in this range.
7. Add *One Shot pH Down* powder. Use easy pour bucket spout for dispensing. Walk around the perimeter of the pool and pour a consistent flow of the dry powder into the pool water. Pour approximately 6” to 8” away from pool walls, and avoid getting on pool decking surfaces. If any of the powder gets on the pool coping, edging or deck surfaces, wash thoroughly off with water and clean according to surface care specific requirements.
 - a. It will typically require 1 bucket of *One Shot pH Down* per 15,000 gallons of water to achieve a pH range of 3.0 – 3.2 if the initial pool pH started at 7.2 – 7.6. (Note: a pH of 3.0 is between household vinegar and tomato juice, see pH chart on page 2.) The exact amount required to reach this optimal cleaning range will vary due to the exact water digital pH meter to confirm pH. If the pH is not in range yet with the initial amount of *One Shot pH Down*. The process for adding additional *One Shot pH Down* is listed below.
 - b. If the pH is not between 3.0 – 3.2, add *One Shot pH Down* in 5 lb. increments. Pour evenly around the pool edge, just like the initial process above. Allow 20 minutes for the powder to fully disperse in water and measure again with pH meter. (Repeat if necessary, the pH needs to be in the correct range for cleaning process.)

The typical pool will take 3 – 5 hours for the calcium build-up to be chemically treated and brushed off easily from the wall and floor surfaces. Heavy calcified pools may take up to 4 – 6 hours for this process to be completed. Typically there will be some air bubbles (CO₂ bubbles) on the surface of the plaster. These bubbles are

generated by the Descaling Process additives and can be misconstrued as calcium build-up. The pool brush process below will aid in removing the air bubbles.

8. Allow *One Shot pH Down* to loosen and process calcium build-up for 2 hours, then brush pool surfaces (walls, floors, steps, etc.) with standard stainless steel pool brush. Apply moderated brushing pressure to the surface. Inspect pool surface for remaining calcium build-up. If there is still calcium build-up that needs to be removed, allow additional 2 – 4 hours of *One Shot pH Down* chemical cleaning to occur and repeat brushing process every hour. Do not exceed 6 hours of *One Shot pH Down* chemical cleaning time. Check filter pressure after each hourly brushing, and clean if necessary.

After *One Shot pH Down* calcium removal process has been completed, follow these additional steps:

1. Slowly add 1 gallon per 15,000 gallons of water of *One Shot pH Up* solution to the main pool skimmer and allow approximately 20 – 30 minutes for pool to stabilize to a pH range of 7.0 – 7.6. (This time may vary, depending on the size of the pool pump.) Continue adding *One Shot pH Up* to skimmer basket until the pH is in the normal range of 7.0 – 7.6.
2. Allow filter system to run 12 – 24 hours to clear up cloudy water.
3. Sweep pool and clean filter system the following day if necessary.

Common Products pH Range Table

Common Substances	pH
Hydrochloric Acid (1 mol/L)	0.0
Gastric Juices	1.0
Lemon Juice	2.2
Vinegar	2.4
Tomato Juice	4.1
Urine	6.0
Pure Water	7.0
Blood	7.4
Baking Soda Solution	8.4
Toothpaste	9.9
Milk of Magnesia	10.5
Household Ammonia	11.9
Sodium Hydroxide (1 mol/L)	14.0