Pool Treatment 101: Introduction To Chlorine Sanitizing

Mastering the knack of maintaining a healthy pool is not difficult with the right information and a little diligence. The proper use of chlorine is a key step to keep your pool healthy.

For general pool treatment, chlorine has three essential characteristics:

1. It acts as a rapid and persistent sanitizer,
2. It is an effective algaecide, and
3. It is a strong oxidizer of undesired contaminants.

**Chlorine Keeps It Clean**

Routine chlorination kills harmful microorganisms that can cause health-related problems, such as diarrhea, Legionnaires disease, ear infections and athlete’s foot. Chlorine should be regularly added to the pool water and levels should be tested daily — at a minimum — for proper disinfection. Hourly if the pool is heavily used.

Learning how to test your water properly will allow you to identify the chlorine level and needs of your pool.

**Remember** -- As more swimmers use a pool, pool chemistry testing is needed more frequently.

**Basic Steps For Pool Treatment**

1. When using treatment chemicals, carefully read and follow the manufacture’s instructions printed on the product label.
2. Make certain to test the water regularly. It’s a simple process to use a test kit.
3. You will maintain a balanced pool water chemistry by measuring the following:
   - **Free available chlorine** (FAC) -- It should never fall below 1.0 ppm (parts per million)
   - **Total chlorine** -- The *combined available chlorine* (CAC) levels should be less than 0.2 ppm
   - **pH level** -- Keep it between 7.2 and 7.8. This ensures that the chlorine is working effectively
   - **Total alkalinity** -- Assures that the pH levels are steady
   - **Calcium hardness** -- Protects the pool surfaces from corrosion
How Much Of What?

The chemicals needed in pools to maintain the required standards differ from pool to pool — and day to day. Guidelines set by the National Spa and Pool Institute (NSPI) are widely used. However, also check your local or state health code.

### NATIONAL SPA AND POOL INSTITUTE
(Suggested chemical standards for swimming pools)

<table>
<thead>
<tr>
<th>Parameter</th>
<th>Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free chlorine, ppm</td>
<td>2.0 - 4.0</td>
</tr>
<tr>
<td>Combined chlorine, ppm</td>
<td>None</td>
</tr>
<tr>
<td>pH level</td>
<td>7.2 - 7.8 (ideal range of 7.4 - 7.6)</td>
</tr>
<tr>
<td>Total alkalinity, ppm</td>
<td>80 - 100</td>
</tr>
<tr>
<td></td>
<td>100 - 120</td>
</tr>
<tr>
<td>Total dissolved solids, ppm</td>
<td>Not to exceed 1500 greater than at pool start-up</td>
</tr>
<tr>
<td>Calcium hardness, ppm</td>
<td>200 - 400</td>
</tr>
<tr>
<td>Cyanuric acid, ppm</td>
<td>30 - 50</td>
</tr>
</tbody>
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### Shock Treatment

Contrary to what most people think, a strong chemical smell is not an indication of too much chlorine in the pool, but is actually a red flag that a “shock treatment” dose may be needed. Shock treatment adds a super dose of oxidizing chemicals to pool water. This destroys organic contaminants and oxidizes ammonia and nitrogen compounds to rid the pool of irritating chloramine odor. A chlorine-based shock treatment known as superchlorination also destroys disease-causing microorganisms and leaves a chlorine “residual” for continued cleaning.

According to NSPI standards for public pools, the ideal frequency for a super dose is every week, depending on use and water temperature. For high use pools, superchlorination may be required three times a week or more as a preventive measure.
Pool Treatment 101 -- The Basics

- Always read and follow the manufacturer’s instructions.
- Store chemicals in a cool, dry, and shaded place.
- Never mix different types of chlorine. Add each to the pool separately.
- Never mix chemicals together. Add each to the pool separately.
- Avoid breathing fumes or vapors.
- Don’t buy more pool chemicals than you’ll use in a season. They will lose effectiveness over time.
- Make sure pool chemicals are stored out of the reach of children.