



### 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.

<b>NATIONAL SPA AND POOL INSTITUTE</b> (Suggested chemical standards for swimming pools)	
Free chlorine, ppm	2.0 - 4.0
Combined chlorine, ppm	None
pH level	7.2 - 7.8 (ideal range of 7.4 - 7.6)
Total alkalinity, ppm <ul style="list-style-type: none"><li>• for liquid chlorine, cal hypo, lithium hypo</li><li>• for gas chlorine, dichlor, trichlor and bromine compounds</li></ul>	80 – 100 100 - 120
Total dissolved solids, ppm	Not to exceed 1500 greater than at pool start-up
Calcium hardness, ppm	200 - 400
Cyanuric acid, ppm	30 - 50

### 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.