What is Chlorine?

Free Chlorine

Every sanitizer has two key functions: to sanitize (kill bacteria and all living organisms) and to oxidize (destroy contaminants and waste). The most popular pool and spa sanitizer is chlorine.

Chlorine is also classified as a disinfectant, meaning that it is capable of killing bacteria, algae and other organic material instantly. All chlorine does the same thing when it is added to the water, regardless of the type of chlorine added: It forms free available chlorine. Free chlorine is the form of chlorine that kills bacteria, algae and disease-causing organisms.

The right balance of chlorine is important — too little, and your pool may not stay properly sanitized; too much and swimmers may experience skin irritation. Ideally, chlorine levels in a swimming pool should be about 1 to 3 ppm. In spas, the level should be higher — about 3 ppm to 5 ppm — due to the smaller volume and higher temperature.

Total Chlorine

Chlorine in pool and spa water may be present in two forms: free chlorine and combined chlorine.

Free chlorine does the hard work of killing bacteria and oxidizing contaminants. (When you add a chlorine compound like Cal-Hypo or trichlor to your pool, you are actually adding free chlorine.)

When free chlorine combines with contaminants such as oils, swimmer waste and other organic compounds, it becomes **combined chlorine**, or chloramines. In pool and spa water, this form of chlorine has very little sanitizing ability, and no oxidizing ability.

Your water's **total chlorine** level is the sum of combined chlorine and free chlorine. If the total chlorine level is higher than free chlorine alone, then combined chlorine is present. In this case you'll need to **shock** or super-chlorinate your pool or spa. To shock the pool, add a free chlorine compound in an extra large dose. The high dosage of free chlorine will actually eliminate the combined chlorine