CHLORINE DEMAND

INTRODUCTION

Chlorine demand is the inability to keep an adequate free chlorine residual in pool water, even though the water is balanced and properly maintained. It can take the form of low total and free chlorine residuals or high combined chlorine (*chloramines*).

Chlorine demand is caused by various contaminants entering the pool that increase oxidation levels or tie up free available chlorine. Symptoms can include slimy or slick pool walls and cloudy water, although water can be clear and still have a high chlorine demand. A sudden drop in cyanuric acid (and no leak or water loss) can be an indicator that there is a chlorine demand problem, as the CYA reading is often masked by the demand. If this occurs, do not add stabilizer.

Specific causes of chlorine demand can include heavy bather loads, inconsistent maintenance, or external sources such as fertilizers, pesticides, and nearby roadwork. Following are some common causes and their explanations:

Resistant algae, fungus or bacteria

An infestation can exhaust normal chlorine residuals and require a specially formulated algicide to solve the problem. Often, the growth is not visible on the pool surface itself. Pink slime and water mold are notorious for growing first inside lines, skimmers, and behind light niches before becoming visible. Growth in these areas can deplete chlorine steadily.

Nitrogen contamination

Lawn fertilizers and other nitrogen products in pool water produce a high level of chloramines, which require larger amounts of chlorine for oxidation.

Source water

Lake water, which is usually contaminated with algae, metals, and other debris, should not be used to fill pools. Well water may have some of the same problems. Even a local municipal water supply can create high chlorine demand, especially if it contains chloramines. In these cases, every time fill water is added to the pool, chloramine and nitrogen levels rise, requiring more chlorine. Shocking after fill water addition helps prevent excessive chloramine levels in this situation, as does avoiding the addition of large amounts of fill water at a time.

Rain and Pollution

Contaminants from factories, highways, airports, and other sources may be deposited in pool water, especially during rainfalls. Clouds sometimes transport pollution over long distances. Rain and wind also carry algae spores, leaves and other debris which raise chlorine demand. During the winter, stagnant water in uncovered pools exposed to air, rain and snow often develop chlorine demand problems.

High bather loads

A large crowd using the pool over a few days can boost bacteria and oxidizable compounds in the water to unusually high levels. Requiring all swimmers to shower before swimming can help prevent this. Since this isn't going to be likely most of the time, shock immediately following parties or other occasions where many people have enjoyed the pool.

NOTE: A zero chlorine reading does not necessarily indicate that there is no chlorine in the pool. The chlorine level may be so high that it is bleaching the color out of the reagent. If you suspect that the chlorine residual is high, dilute the sample with half distilled water and retest.

TO ELIMINATE DEMAND:

The best way by far to break a chlorine demand is to perform a chlorine demand test. This test is contained in a separate lab available to BioGuard Dealers. This test can give the exact amount of Burn Out® 35 or Burn Out® needed to break the demand. Performing this test can prevent a great deal of frustration by allowing you to make an educated decision on how to proceed. In some cases, the amount of product can be quite high. It may be a more feasible option to perform a partial drain (about 1/2 pool) and refill with fresh water to reduce the demand. (Check environmental factors such as water tables etc. before proceeding with a drain. Consult the pool manufacturer or builder before draining significant amounts of water from the pool.)

If you do not have the Chlorine Demand Test station:

Shock the pool with 3 lbs. of Burn Out 35 per 6,000 gallons or 3 lbs. of Burn Out per 6,000 gallons, up to 5# of shock per 10,000 gallon pool.

1. Circulate the water continuously. Three hours after adding product, test the water for chlorine. If it is not greater than 3 ppm, repeat step one.
2. Continue shocking and retesting every three to four hours until you can maintain a 3 ppm free

chlorine reading for 24 hours.

OR

Drain 2.5 feet of water and dilute with fresh water to eliminate some of the demand.

NOTE: There is no way without the Demand test station to determine how many of these shock applications the demand will take.

The best way to prevent chlorine demand is to follow one of the Three Step Programs. Consistent sanitation, regular shocking, and the application of an algae preventative are the best weapons against any kind of problem, chlorine demand included.

To minimize the risk of chlorine demand from outside contaminants, shock the pool after periods of heavy use and avoid getting chemicals in the pool, such as lawn sprays, fertilizers, pesticides and other pollutants.

NOTE: Always follow label directions and manufacturer's instructions for each product used. Conditions may vary from pool to pool. Ultra Modern Pool & Patio does not assume any responsibility or liability for the results that may be obtained through utilization of this or any other program, procedure or product. Information taken from ALEX Millennium Encyclopedia.

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MAY—2012

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