

CHEMICAL BALANCE

A guide to maintaining a clean pool

Ensuring a well-balanced pool is not only vital for the health and safety of swimmers but also plays a significant role in optimizing the performance of your disinfection system and other pool equipment.



pH Level (7.2– 7.6)

It is the most important parameter in your pool.

To raise pH: Add pH plus solution (e.g., sodium carbonate, sodium bicarbonate)

To lower pH: Add pH minus solution (e.g., sodium bisulphate, muriatic acid, carbon dioxide)



Total Alkalinity (80 – 120 mg/L)

Alkalinity helps to control pH levels from dramatic changes when the pool is in use.

To raise Alkalinity: Add sodium bicarbonate

To lower Alkalinity: Add muriatic acid

Tip: Total alkalinity should be adjusted before the pH

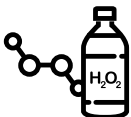


Residual disinfection – option 1: Free Chlorine (0.5 – 2 mg/L)

Residual disinfection chemical. Helps to kill germs and bacteria and prevent algae growing.

To raise Chlorine: Add liquid chlorine, chlorine tablets or granular chlorine

To lower Chlorine: Add sodium thiosulfate, hydrogen peroxide, or adding fresh water.



Residual disinfection – option 2: Hydrogen Peroxide (50 – 100 mg/L)

To raise H₂O₂: Add hydrogen peroxide solution (32%)

To lower H₂O₂: Dilute by adding fresh water



Residual disinfection – option 3: Bromine (3 – 4.5 mg/L)

A better option for sanitizing spas and hot tubs.

To raise Bromine: Add bromine tablets or granular bromine

To lower Bromine: Dilute by adding fresh water or sodium thiosulfate



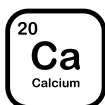
Turbidity (max 0.5 NTU)

High levels of turbidity can affect water clarity and the effectiveness of disinfection chemicals and equipment.

To lower Turbidity: Check the filtration system, add flocculant or clarifier

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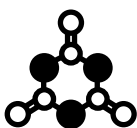


Calcium Hardness (200 – 400 mg/L)

It is the amount of calcium in your pool water. High levels of calcium will cause scaling and low levels will turn the water corrosive.

To raise Calcium: Add calcium chloride

To lower Calcium: Dilute by adding fresh water



Cyanuric Acid (30 – 50 ppm for outdoor chlorinated pools)

It is also known as chlorine stabilizer and is often used in outdoor pools. Helps prevent the breakdown of chlorine due to UV radiation.

To raise Cyanuric acid: Add cyanuric acid

To lower Cyanuric acid: Dilute by adding fresh water



Total Dissolved Solids (TDS) (max 1000 mg/L)

Represents the total amount of substances that are dissolved in the water. High TDS is a warning that the pool chemical balance is not correct.

To lower TDS: Check the filtration system, dilute by adding fresh water.



Copper ions (max 0.3 mg/L)

Copper ions act as a disinfectant, controlling bacteria and algae growth.

To raise Copper: Use copper ionizer

To lower Copper: Add sequestering or chelating agent (e.g., EDTA, sodium polyphosphate).



Silver ions (max 0.05 mg/L)

Silver ions act as a disinfectant, controlling bacteria and algae growth.

To raise Silver: Use silver ionizer

To lower Silver: Use active carbon filtration or add chelating agent (e.g., sodium thiosulfate).



Phosphate (max 0.01 mg/L)

Phosphate is naturally present in the water, but high levels promote algae growth.

To lower Phosphate: Check the chemical balance to prevent algae growth, if everything is ok but phosphate level is still high, use a phosphate remover.



Sulphate (max 360 mg/L)

High levels of sulphate can lead to equipment corrosion and erosion of cement grout. Whenever possible, avoid the use of sulphate-based chemicals.

To lower Sulphate: Dilute by adding fresh water

Enhancing your pool experience goes beyond maintaining the chemical balance. A well-designed water circulation system and an efficient filtration setup are equally crucial. The duration of filter operation varies based on pool size and pump power. For accurate guidelines, we highly encourage referring to the manufacturer's instructions.