Pool chemistry chart

Ideal levels for chlorine and salt water pools. Print it and keep it next to your test kit.

pool-dex.com/chemistry/

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Pool water chemistry targets

Our targets sit inside the ranges published by the CDC, the MAHC, and PHTA.

acceptable range · our target

Free chlorine (FC)

3–5 ppm

at CYA 40 (about 7.5% of CYA)
at least 2 ppm with CYA

pH

7.4–7.6

acceptable 7.2–7.8

Total alkalinity (TA)

80–120 ppm

60–90 for salt pools
acceptable 60–180

Calcium hardness (CH)

200–400 ppm

plaster pools
vinyl, above-ground: 150–250

Stabilizer (CYA)

30–50 ppm

salt pools 60–80 ppm
hot tubs and indoor: none

Salt (salt pools only)

about 3,200 ppm

or the range in your cell's manual

Combined chlorine (CC)

0 ppm

keep it below 0.5 ppm;
at 0.5 or more, shock per label

Fix in this order

1 Chlorine, if low
2 Alkalinity
3 pH
4 Calcium
5 Stabilizer

Hot tubs differ: chlorine 3–4 ppm or bromine 4–6 ppm, no CYA, 104 °F max.

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Free chlorine by stabilizer (CYA)

CYA	Minimum FC	Target FC	Salt pool target
0 ppm	1	2–4	2–4
30 ppm	2.5	2.5–4.5	2–4
40 ppm	3	3–5	2–4
50 ppm	4	4–6	2.5–4.5
60 ppm	4.5	4.5–6.5	3–5
80 ppm	6	6–8	4–6

All values in ppm. Swim only at or below the limit on your chlorine label (often 4 ppm); never above 10 ppm (CDC model code).

pH chart

pH	What it means	Do this
Below 7.0	Too low; corrosive	Raise pH
7.0–7.3	Low end	Raise toward 7.4
7.4–7.6	Target	Nothing
7.7–7.8	OK, upper end	Watch it
Above 7.8	Too high; chlorine weak	Lower with acid

Active chlorine: about 70% at pH 7.0, 50% at 7.5, 20% at 8.0 (CDC MAHC Annex).

Fix in this order

1. Chlorine, if below the minimum
2. Total alkalinity
3. pH
4. Calcium hardness
5. Stabilizer (CYA)

One product at a time, pump running. Retest before the next step.

Hot tubs are different

Chlorine 3–4 ppm or bromine 4–6 ppm, no CYA, water no hotter than 104 °F.

Safety. Never mix chlorine with acid, or two types of chlorine. Add chemicals to water, never water to chemicals. Store acid and chlorine apart, locked, cool, and dry. Always follow the product label. It is a violation of federal law to use a pesticide product in a manner inconsistent with its labeling. Poison Control: 1-800-222-1222.

Sources: CDC Home pool and hot tub water treatment and testing; CDC Model Aquatic Health Code 2024 Annex; ANSI/APSP-11 (PHTA); Taylor Technologies K-1005 manual; Hayward AquaRite and Pentair IntelliChlor manuals. Targets and formulas: pool-dex.com/methodology/. Pooldex is free for iPhone in the App Store. General information, not a product label.