



Water Chemistry Guide
Water Treatment Tables

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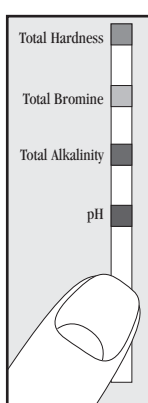
Basic Pool/Spa Water Chemistry

AquaChek® Red is a test for Total Hardness, Total Bromine, Total Alkalinity and pH. The test pads on the strip change color to indicate the levels in your pool or spa water. Be sure to snap the lid securely closed on the AquaChek bottle immediately after dispensing a strip. This will prevent strips from spilling and keep them fresh. **Store the strips in a cool, dry place, and leave the packet of drying agent in the bottle—it will keep the test strips at their best.**

This insert provides some basic information about water chemistry. The water treatment tables will help you use your test results to adjust your water properly.

WARNING: Exercise extreme caution when handling chemicals. Do not add chemicals when swimmers are in the water. Never store acids and chlorine compounds next to each other. Never mix chemicals together; add chemicals to the water one at a time. Handle acid very carefully. Wear protective eyewear and keep material away from children. **Always follow the chemical manufacturer's directions.**

To keep your pool at its best, test each end a minimum of twice a week, and test your spa before each use. It's also a good idea to write down your results each time you test.



Total Hardness

Unlike most test kits which measure only calcium hardness, your AquaChek Red test strip includes a pad to measure Total Hardness (calcium and magnesium). Hardness affects the tendency of water to be corrosive or scale-forming. Low hardness levels require immediate attention! Water in which the hardness is too low will be very corrosive, causing potentially severe damage to metal pipes and fixtures as well as plaster. When the hardness level is too low, add calcium chloride. (See table below.) When the hardness level is too high, excessive scale deposits may form on the walls and equipment of your pool or hot tub. This can occur more frequently in hot tubs, where hot water increases evaporation and hardness buildup. For more detailed advice on the specific chemical treatment for your pool or spa, contact your dealer.

See warnings for handling chemicals ppm=mg/L

Raising Hardness with Calcium Chloride						
Increase in Hardness in ppm	Spa or Pool Volume					
	500 gal. 1.9 kL	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
10	1 oz. 28 g	2 oz. 56 g	10 oz. 283 g	1 1/4 lbs. 568 g	1 3/4 lbs. 795 g	3 1/4 lbs. 1.5 kg
20	2 oz. 57 g	4 oz. 113 g	1 1/4 lbs. 568 g	2 1/2 lbs. 1.1 kg	3 3/4 lbs. 1.7 kg	6 1/4 lbs. 2.8 kg
50	5 oz. 142 g	10 oz. 284 g	3 lbs. 1.4 kg	6 1/4 lbs. 2.8 kg	9 1/2 lbs. 4.3 kg	15 3/4 lbs. 7.2 kg
100	10 oz. 284 g	1 1/4 lbs. 568 g	6 1/4 lbs. 2.8 kg	12 1/2 lbs. 5.7 kg	18 3/4 lbs. 8.5 kg	31 1/4 lbs. 14 kg

The only practical way to reduce high levels of hardness is to drain and refill the water.

Total Bromine

AquaChek Red is specially formulated to test for Bromine. Bromine is the water sanitizer of choice for many spas and pools. Keeping your spa's or pool's Bromine level in the ideal range will keep the water sparkling clean and clear. But before making any adjustments, be sure that pH and Total Alkalinity are in the right ranges. If the Bromine reading is too low, add Bromine. (See table below.) For more detailed advice on the specific chemical treatment for your spa or pool, contact your dealer.

Monopersulfate is an oxidizing agent often used as a non-chlorine shock treatment in brominated spas and pools. To shock water that has no measurable bromine level, add the appropriate dose of monopersulfate to introduce approximately 12 ppm. This will oxidize the wastes in the pool and will also reactivate the bromine.

To make sure you shock your water properly, ask your dealer for **AquaChek® Monopersulfate Test Strips**.

Bromine Treatment Chart Amount needed to Introduce 1 ppm (mg/L)						
Type of Bromine	Pool Volume					
	500 gal. 1.9 kL	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
Bromine Tablets*	0.25 oz. 8 g	0.5 oz. 16 g	2.5 oz. 80 g	5 oz. 160 g	7.5 oz. 240 g	12.5 oz. 400 g
Granular Bromine	0.2 oz. 7 g	0.35 oz. 12 g	1.5 oz. 48 g	3 oz. 96 g	4.5 oz. 144 g	7.5 oz. 240 g

* One bromine tablet is approximately 0.5 oz. in weight.

Non-Chlorine Shock Chart (Monopersulfate) Amount needed to Introduce Approximately 12 ppm (mg/L)						
	Pool Volume					
	500 gal. 1.9 kL	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
Powder Monopersulfate	1 oz. 28 g	2 oz. 57 g	8 oz. 227 g	1 lb. 454 g	1 1/2 lbs. 681 g	2 1/2 lbs. 1.1 kg

Total Alkalinity

Total Alkalinity measures the amount of alkaline substances (carbonates and bicarbonates) in your water. Alkaline substances buffer your water against sudden changes in the pH of the water. It is important to prevent pH changes that can cause corrosion or scaling of metal fixtures. Total Alkalinity should be adjusted before adding chemicals to balance pH or Bromine.* If Total Alkalinity is too low, add sodium bicarbonate. If Total Alkalinity is too high, add an acid. (See tables below.) For more detailed advice on the specific chemical treatment for your pool or spa, contact your dealer.

*Note: If the Total Alkalinity pad turns blue (very high) or yellow (very low), adjust the Total Alkalinity. Re-test until the test shows the alkalinity to be within the ideal range of 80-120 ppm.

Raising Alkalinity With Sodium Bicarbonate							Lowering Alkalinity With Dry Acid (Sodium Bisulfate)						
Increase in Total Alkalinity in ppm	Pool/Spa Volume						Decrease in Total Alkalinity in ppm	Pool/Spa Volume					
	500 gal. 1.9 kL	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL		500 gal. 1.9 kL	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
10	1 1/4 oz. 31 g	2 1/2 oz. 62 g	12 oz. 340 g	1 1/2 lbs. 681 g	2 1/4 lbs. 1 kg	3 3/4 lbs. 1.7 kg	10	1 1/4 oz. 35 g	2 1/2 oz. 70.8 g	12 3/4 oz. 361 g	1 1/2 lbs. 681 g	2 1/2 lbs. 1.1 kg	4 lbs. 1.8 kg
20	2 3/8 oz. 67 g	4 3/4 oz. 135 g	1 1/2 lbs. 681 g	3 lbs. 1.4 kg	4 1/2 lbs. 2 kg	7 1/2 lbs. 3.4 kg	20	2.5 oz. 71 g	5 oz. 142 g	1 1/2 lbs. 681 g	3 1/4 lbs. 1.5 kg	4 3/4 lbs. 2.2 kg	8 lbs. 3.6 kg
50	6 oz. 170 g	12 oz. 340 g	3 3/4 lbs. 1.7 kg	7 1/2 lbs. 3.4 kg	11 1/4 lbs. 5 kg	18 3/4 lbs. 8.5 kg	50	6 3/8 oz. 180 g	12 3/4 oz. 361 g	4 lbs. 1.8 kg	8 lbs. 3.6 kg	12 lbs. 5.4 kg	20 3/4 lbs. 9.4 kg

pH

pH refers to the intensity of acid or alkaline materials in your water. If pH is too high, scale can form on surfaces in contact with the water. If pH is too low, metal parts will corrode. Adjust Total Alkalinity before adjusting the pH; this will help prevent sudden fluctuations in pH.* When the pH is too low, add soda ash. When it is too high, add an acid. (See tables below.) For more detailed advice on the specific chemical treatment for your pool or spa, contact your dealer.

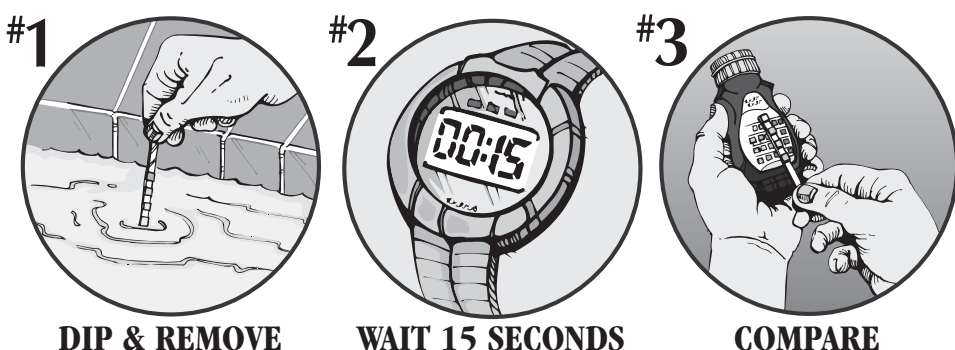
Raising pH with Soda Ash (Sodium Carbonate) (When pH is under 7.2, add the amount of soda ash indicated below, then retest)					
pH Level	Pool Volume				
	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
7.0 – 7.2	3/4 oz. 21.3 g	4 oz. 113 g	8 oz. 227 g	12 oz. 340 g	1 1/4 lbs. 568 g
6.7 – 7.0	1 1/4 oz. 35.4 g	6 oz. 170 g	12 oz. 340 g	1 lb. 454 g	2 lbs. 908 g
Under 6.7	1 1/2 oz. 42.5 g	8 oz. 227 g	1 lb. 454 g	1 1/2 lbs. 681 g	2 1/2 lbs. 1.1 kg

Lowering pH using Dry Acid (Sodium Bisulfate) (When pH is over 7.8, add the amount of acid indicated below, then retest)					
pH Level	Pool Volume				
	1,000 gal. 3.8 kL	5,000 gal. 19 kL	10,000 gal. 38 kL	15,000 gal. 57 kL	25,000 gal. 95 kL
7.8 – 8.0	0.1 lbs. 45 g	0.3 lbs. 136 g	0.6 lbs. 272 g	0.9 lbs. 408 g	1.5 lbs. 681 g
8.0 – 8.4	0.2 lbs. 91 g	0.5 lbs. 227 g	1.0 lbs. 454 g	1.5 lbs. 681 g	2.5 lbs. 1.1 kg
Over 8.4	0.3 lbs. 136 g	0.8 lbs. 363 g	1.5 lbs. 681 g	2.3 lbs. 1.0 kg	3.8 lbs. 1.7 kg

To learn more about pool and spa water testing,
visit our web site, www.AquaChek.com



AquaChek®



ENGLISH

Directions: **1.** Dip a strip into water and remove immediately. **2.** Hold strip level for 15 seconds (do not shake excess water from strip.) **3.** Compare Total Hardness, Total Bromine, Total Alkalinity and pH pads (in that order) to color chart on label.

Important: Keep cap closed tight between uses. Store at room temperature. Use by expiration date on cap.

FR

Directions : **1.** Trempez la bandelette dans l'eau et retirez-la immédiatement. **2.** Tenez la bandelette à l'horizontale pendant 15 secondes (n'essorez pas l'eau accumulée sur la bandelette). **3.** Comparez les carrés de dureté totale, brome total, alcalinité totale et pH (dans cet ordre) au tableau des couleurs situé sur l'étiquette.

Important : Comparez les carrés de dureté totale, brome total, alcalinité totale et pH (dans cet ordre) au tableau des couleurs situé sur l'étiquette.

Pour interpréter le tableau sur la bouteille : LOW = BAS, OK = OK, HIGH = HAUT

ES

Instrucciones: **1.** Sumerja una cinta en el agua y retírela inmediatamente. **2.** Sostenga la cinta a nivel durante 15 segundos (no sacuda el exceso de agua de la cinta) **3.** Compare los indicadores de dureza total, bromo total, alcalinidad total y pH (en ese orden) con la carta de colores en la etiqueta.

Importante: Mantenga la tapa muy bien cerrada entre usos. Conserve a temperatura ambiente. Use antes de la fecha de vencimiento que figura en la tapa.

Interpretar la tabla en el frasco: LOW = BAJO, OK = OK, HIGH = ALTO

IT

Indicazioni: **1.** Immergere una striscia nell'acqua e rimuovere immediatamente. **2.** Tenere la striscia orizzontale per 15 secondi (senza scuotere via l'acqua in eccesso). **3.** Confrontare sulla tabella a colori dell'etichetta i settori relativi a durezza totale, bromo totale, alcalinità totale e pH (in questo ordine).

Importante: tra un utilizzo e l'altro, tenere chiuso il tappo. Conservare a temperatura ambiente. Utilizzare prima della data di scadenza.

Per interpretare la tabella sulla bottiglia: LOW=BASSO, OK=OK, HIGH=ALTO

PT

Instruções: **1.** Mergulhar uma fita na água e retirar imediatamente. **2.** Manter a fita nivelada durante 15 segundos (não sacudir o excesso de água da fita) **3.** Comparar os indicadores de Dureza total, Bromo total, Alcalinidade total e pH (por esta ordem) com o quadro de cores na etiqueta.

Importante: Manter a tampa bem fechada entre utilizações. Conservar à temperatura ambiente. Utilizar até à data de validade indicada na tampa.

Para interpretar o quadro no frasco: LOW=BAIXO, OK=OK, HIGH=ALTO

DE

Anweisungen: **1.** Einen Streifen ins Wasser tauchen und sofort herausnehmen. **2.** Streifen 15 Sekunden lang waagrecht halten. (Überschüssiges Wasser nicht abschütteln.) **3.** Die Felder für Gesamthärte, Gesamtbromgehalt, Gesamtalkalität und pH-Wert (in dieser Reihenfolge) mit der Farbskala auf dem Etikett vergleichen.

Wichtig: Verschlusskappe nach Gebrauch gut schließen. Bei Raumtemperatur lagern. Vor Ablauf des Verfallsdatums verwenden (siehe Verschlusskappe).

Erklärung der Farbskala auf der Flasche: LOW = TIEF, OK = OK, HIGH = HOCH

NL

Aanwijzingen: **1.** Dompel een strip onder in het water en haal er direct weer uit. **2.** Houd de strip 15 seconden horizontaal (het overtollige water niet van de strip schudden) **3.** Vergelijk de totale hardheid, het totale brominegehalte, de totale alkaliteit en de pH van de pads (in die volgorde) met de kleurenkaart op het etiket.

Belangrijk: Na elk gebruik moet de dop stevig gesloten worden. Bij kamertemperatuur bewaren. Niet gebruiken na de op de dop vermelde uiterste gebruiksdatum.

Voor de beoordeling van de kaart op de fles: LOW=LAAG, OK=OK, HIGH=HOOG

DK

Vejledning: **1.** Dyp en strimmel i vand og fjern den øjeblikkelig. **2.** Hold strimmelen vandret i 15 sekunder (ryst ikke overskydende vand af strimmelen). **3.** Sammenlign samlet hårdhed, samlet bromindhold, samlet alkalitet og pH belægninger (i samme rækkefølge) med farvekortet på etiketten.

Vigtigt: Hold låget stramt lukket, når produktet ikke er i brug. Opbevar ved stuetemperatur. Anvendes inden udløbsdatoen øverst på låget.

For at tolke diagram på flaske: LOW=LAV, OK=OK, HIGH=HØJ

SE

Instruktioner: **1.** Doppa ner teststickan i vattnet och ta upp den omedelbart. **2.** Håll upp stickan i 15 sekunder (skaka inte av överflödigt vatten från stickan). **3.** Jämför hårdhet, brom, alkalinitet och pH (i den ordningen) med färgskalan.

Viktigt: Tillslut förpackningen noga mellan användningarna. Förvara i rumstemperatur. Använd före bäst-före-datum på locket.

Utläs markeringarna på flaskan enligt följande: LOW=LÅG, OK=OK, HIGH=HÖG

RU

Применение: **1.** Опустите полоску в воду и немедленно извлеките. **2.** Подержите полоску горизонтально 15 секунд (не стряхивайте излишки воды с полосы). **3.** Сравните по порядку индикаторы общей жесткости, общего содержания брома, общей щелочности и водородного показателя (pH) с цветной таблицей на этикетке.

Внимание! Держите крышку плотно закрытой между проверками. Хранить при комнатной температуре. Использовать до срока годности, указанного на крышке.

Интерпретация таблицы на флаконе: LOW=НИЗКИЙ, OK=НОРМА, HIGH=ВЫСОКИЙ

PL

Wskazówki: **1.** Włożyć pasek do wody i natychmiast wyjąć. **2.** Przez 15 sekund trzymać pasek poziomo (nie strząsać z paska nadmiaru wody) **3.** Porównać pola testowe dla całkowitej twardości wody, bromu całkowitego, zasadowości całkowitej i pH (w tej kolejności) ze skalą kolorów na etykiecie.

Ważne: Po użyciu produktu szczelnie zamknąć pojemnik. Przechowywać w temperaturze pokojowej. Nie używać po upływie daty ważności podanej na pokrywie.

Interpretacja skali na butelce: LOW =NISKA OK=OK HIGH=WYSOKA

CZ

Pokyny: **1.** Ponořte proužek do vody a okamžitě jej vytáhněte. **2.** Držte proužek ve vodorovné poloze 15 sekund (nesetřepávejte přebytočnou vodu z proužku). **3.** Porovnejte barvu polštářku pro měření celkové tvrdosti, celkového bromu, celkové alkality a pH, (v tomto pořadí) s barevnou tabulkou na štítku.

Důležité upozornění: Pokud přípravek nepoužíváte, víčko pevně dotáhněte. Používejte do data uvedeného na víčku.

Pro výklad diagramu na láhvi: LOW = NÍZKÝ, OK = OK, HIGH = VYSOKÝ

EL

Οδηγίες: **1.** Εμβαπτίστε μια ταινία στο νερό και αφαιρέστε την αμέσως. **2.** Κρατήστε την ταινία οριζόντια για 15 δευτερόλεπτα (μην τινάζετε την περίσσεια νερού από την ταινία) **3.** Συγκρίνετε τις πλακέτες της ολικής σκληρότητας, του ολικού βρωμίου, της ολικής αλκαλικότητας και του pH (με τη σειρά αυτή) με το χρωματικό διάγραμμα στην ετικέτα.

Σημαντικό: Διατηρείτε το πήμα ερμητικά κλειστό μεταξύ των χρήσεων. Φυλάσσετε σε θερμοκρασία δωματίου.

Χρησιμοποιείτε έως την ημερομηνία λήξης που αναγράφεται στο πήμα.

Για την ερμηνεία του διαγράμματος οτη Φιάλ: LOW=ΧΑΜΗΛΟ, OK=OK, HIGH=ΥΨΗΛΟ

HU

Útmutatás: **1.** Merítsen egy csíkot vízbe és azonnal vegye is ki. **2.** Tartsa kézben a csíkot 15 másodpercig (ne rázza le róla a vizet.) **3.** Hasonlítsa össze a teljes keménység, teljes bór, összlúg, és pH lapokat (ebben a sorrendben) a címkén található színskálával.

Fontos: Használat után szorosan zárja vissza a kupakot. Szobahőmérsékleten tárolja. A kupakon jelzett lejárati idő után ne használja.

Az üvegen található diagramm magyarázata: LOW=ALACSONY, OK=RENDBEN, HIGH=MAGAS

TR

Talimat: **1.** Bir stripi suya daldırın ve hemen çıkarın. **2.** Stripi 15 saniye yatay tutun (stripten fazla suyu sallayarak gidermeyin) **3.** Toplam Sertlik, Toplam Brom, Toplam Alkalinite ve pH kısımlarını (bu sırayla) etiketteki renk şemasıyla karşılaştırın.

Önemli: Kullanılmadığında kapağı sıkıca kapalı tutun. Oda sıcaklığında saklayın. Kapaktaki son kullanma tarihinden önce kullanın.

Şişedeki tabloyu yorumlamak için: LOW=DÜŞÜK, OK=İYİ, HIGH=YÜKSEK

ppm = mg/L ppm (частей на миллион) = мг / л