

# TROUBLESHOOTING GUIDE- CHEMICAL

<b>SYMPTOM</b>	<b>CAUSE</b>	<b>SOLUTION</b>
<b>Chlorine test shows no residual chlorine level</b>	Old or contaminated test reagents	Replace reagents or get new test kit
	High chlorine level (reagent briefly pink, then clear)	Allow chlorine levels to drop or neutralize with sodium thiosulfate
	High Bather Load	Add chlorine
	Not Enough or No Free Chlorine	Superchlorinate (Breakpoint chlorination or shocking the pool)
	Not Enough Free Chlorine	Raise chlorine to 2.0-3.0 ppm FAC
	Chlorine has lost its strength	Replace chlorine (common problem w/liquid chlorine)
	Pool not stabilized (sunblock)	Add cyanuric acid to 50-70 ppm
<b>Rapid Loss of Chlorine</b>	High Bather Load	Chlorinate
	Pool not stabilized	Add cyanuric acid to 50-70 ppm
	Chlorine has lost its strength	Replace chlorine (common problem w/liquid chlorine)

**Strong chlorine smell**

Not Enough or No Free Chlorine

Superchlorinate (Breakpoint or Shock) to eliminate chloramines

High combined chlorine

Superchlorinate (Breakpoint or Shock) to eliminate chloramines

Chlorine has lost its strength

Replace chlorine (common problem w/liquid chlorine)

**Green color, pools feels "slimy"**

Not Enough or No Free Chlorine

Superchlorinate (Breakpoint or Shock)

Growth of Algae

Superchlorinate, if not effective use specific algaecide. Broadcast granular chlorine while pump is off.

Chlorine has lost its strength

Replace chlorine (more common w/liquid chlorine)

Improper Water Balance

Determine Saturation Index, adjust pool accordingly

**Green, brown or black algae spots on wall**

Not Enough or No Free Chlorine

Superchlorinate, broadcast granular chlorine while pump is off. Let sit for 24 hrs.

Growth of Algae

Superchlorinate, if not effective use specific algaecide

Chlorine has lost its strength

Replace chlorine (more common w/liquid chlorine)

pH too high Adjust downward (7.4-7.6ppm)

### Bad water taste or smell (not chlorine odor)

Inadequate Filtration	Clean filter, check for problems with valves, gauges or pipes
High Bather Load	Chlorinate
High Total Dissolved Solid Levels	Test for total dissolved solids
Too much calcium	Test for calcium levels. If more than 400 ppm, drain some of pool water to waster and re-fill pool (if high calcium fill water, truck fresh water from outside source)
Not Enough or No Free Chlorine	Superchlorinate (Breakpoint or Shock)
Not Enough Free Chlorine	Raise chlorine to 2.0-3.0 ppm FAC
Chlorine has lost its strength	Replace chlorine (more common w/liquid chlorine)

### Skin Irritation

Not Enough or No Free Chlorine	Superchlorinate (Breakpoint or Shock)
pH too low	Adjust upward (7.4-7.6ppm)
pH too high	Adjust downward (7.4-7.6ppm)
Too much chlorine/bleach out (reagent briefly pink, the clear)	Allow chlorine levels to drop or neutralize FAC

Chlorine has lost its strength

Replace chlorine (more common w/liquid chlorine)

Total alkalinity too low

Adjust upward (80-120 ppm)

## Severe Eye Irritation

Not Enough or No Free Chlorine

Superchlorinate (Breakpoint or Shock)

pH too low

Adjust upward (7.4-7.6ppm)

pH too high

Adjust downward (7.4-7.6ppm)

High Bather Load

Chlorinate

Chlorine has lost its strength

Replace chlorine (more common w/liquid chlorine)

Total alkalinity too low

Adjust upward (80-120 ppm)

## Corrosion or Etching of Plaster

Improper Water Balance

Determine Saturation Index, adjust pool accordingly

Too little calcium in water

Test calcium level, adjust upward (200-400ppm)

pH too low

Adjust upward (7.4-7.6ppm)

Total alkalinity too low

Adjust upward (80-120 ppm)

## Scale Deposits

Improper Water Balance	Determine Saturation Index, adjust pool accordingly
Too much calcium	Test for calcium levels. If more than 400 ppm, drain some of pool water to waster and re-fill pool (if high calcium fill water, truck fresh water from outside source)
High Total Dissolved Solid Levels	Test for total dissolved solids, If more than 1000 ppm off some pool water to waste and re-fill pool
Unwanted minerals or metals	Allow 12 hr turnover of pool water close skimmer lines if can isolate. If no improvement, determine saturation index, adjust accordingly. If still no improvement, use sequestration to hold in solution orchelating to help remove them.
pH too high	Adjust downward (7.4-7.6ppm)
Total alkalinity too high	Adjust downward (80-120 pm)

## Cloudy Water

High Bather Load	Chlorinate
Not Enough or No Free Chlorine	Superchlorinate (Breakpoint or Shock)
Not Enough Free Chlorine	Raise chlorine to 2.0-3.0 ppm FAC
Inadequate Filtration	Clean filter, check for problems with valves, gauges or pipes

Improper Water Balance	Determine Saturation Index, adjust pool accordingly
High Total Dissolved Solid Levels	Test for total dissolved solids, If more than 1000ppm off some pool water to waste and re-fill pool
Too much calcium	Test for calcium levels. If more than 400 ppm, rain some of pool water to waster and re-fill pool (if high calcium fill water, truck fresh water from outside source)
Unwanted minerals or metals	Allow 12 hr turnover of pool water close skimmer lines if can isolate. If no improvement, determine saturation index, adjust accordingly. If still no improvement, use sequestration to hold in solution or chelating to help remove them.
pH too high	Adjust downward (7.4-7.6ppm)
Total alkalinity too high	Adjust downward (80-120 pm)
Chlorine has lost its strength	Replace chlorine (more common w/liquid chlorine)

**Greenish Water Color (not algae)**

Improper Water Balance	Determine Saturation Index, adjust pool accordingly
Inadequate Filtration	Clean filter, check for problems with valves, gauges or pipes
Unwanted minerals or metals	Allow 12 hr turnover of

pool water close skimmer lines if can isolate. If no improvement, determine saturation index, adjust accordingly. If still no improvement, use sequestration to hold in solution or chelating to help remove them.

High Total Dissolved Solid Levels

Test for total dissolved solids, If more than 1000 ppm off some pool water to waste and re-fill pool

pH too low

Adjust upward (7.4-7.6ppm)

Total alkalinity too low

Adjust upward (80-120 ppm)

## Reddish or Brown Stains

Improper Water Balance

Determine Saturation Index, adjust pool accordingly

Inadequate Filtration

Clean filter, check for problems with valves, gauges or pipes

Unwanted minerals or metals

Allow 12 hr turnover of pool water close skimmer lines if can isolate. If no improvement, determine saturation index, adjust accordingly. If still no improvement, use sequestration to hold in solution or chelating to help remove them.

High Total Dissolved Solid Levels

Test for total dissolved solids, If more than 1000 ppm off some pool water to waste and re-fill pool  
Determine Saturation Index, adjust pool accordingly

**Water turns blue, brown or blackish when chlorine is added to the pool**

Improper Water Balance

Determine Saturation Index and adjust pool accordingly

Inadequate Filtration

Clean filter, check for problems with valves, gauges or pipes

Unwanted minerals or metals

Allow 12 hr turnover of pool water close skimmer lines if can isolate. If no improvement, determine saturation index, adjust accordingly. If still no improvement, use sequestration to hold in solution or chelating to help remove them.

High Total Dissolved Solid Levels

Test for total dissolved solids, If more than 1000 ppm off some pool water to waste and re-fill pool