

POOL SURFACE PROBLEMS

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Oil or scum line (bath tub ring)	<ul style="list-style-type: none"> • Overuse of cosmetic products • Accumulation of body oils • Airborne contaminates 	Use SUN Tile & Vinyl Cleaner on the affected areas. Try to reduce the amount of cosmetic residue being introduced into the water. Add SUN Natural Enzyme Treatment to control and remove the accumulations of oily deposits.
Scaling/Deposits/Rough surface	<ul style="list-style-type: none"> • Unbalanced water: <ol style="list-style-type: none"> a) High pH (above 7.8) b) High Total Alkalinity (above 150) c) High Calcium Hardness (over 400 ppm) – possibly from long-term use of products containing calcium 	High levels of calcium hardness can result in the formation of scale deposits on the underwater surfaces. High pH and TA will worsen the problem so it's important that these parameters are optimized. SUN Stain & Scale Inhibitor can be used to help deal with the scale formation. Avoid using chlorine products containing calcium for daily use or shocking. SUN stabilized chlorine, lithium hypochlorite or SUN-Brite non-chlorine shock offer performance and convenience without any calcium.
Corrosion of Metal Parts/Pitting	<ul style="list-style-type: none"> • Unbalanced water: <ol style="list-style-type: none"> a) Low pH (below 7.2 ppm) b) Low Total Alkalinity (below 80 ppm) c) Low Calcium Hardness (below 150 ppm) • Failure to test pH frequently and adjust accordingly • Use of chlorine or bromine in acidic conditions (pH below 7.2) • Placement of chemicals on metal surfaces 	Water testing is important to avoid the conditions that lead to corrosion. Maintaining proper levels for pH, Total Alkalinity, and calcium hardness will help minimize corrosion. Never place chemicals on metal surfaces. If corrosion has been experienced, add SUN Super-Quest or SUN Stain & Scale Inhibitor can help control the problem.
Minerals	<p>Minerals in the water can lead to discoloration and staining. They are always present in the source water used to fill the pool or replace lost water, however, not all minerals are problematic. If your source water is known to contain metals, add a maintenance dose of SUN Super-Quest several hours prior to filling or replacing water. Always try adding makeup water by placing the garden hose in the skimmer in order to give the filter an opportunity to remove any suspended minerals. Water discolorations or staining that occurs immediately upon addition of either SUN Plus or Alkalinity Plus may be the result of an under-treated or undetected iron, copper or manganese problem. Water testing is important for detection and treatment of mineral and mineral-associated problems so bring a water sample to your professional SUN dealer for complete analysis.</p> <p>Copper:</p> <ul style="list-style-type: none"> • Acidic conditions, in the presence of chlorine or bromine, can lead to corrosion of copper pipes or heaters • “Green hair” can be caused by copper from natural sources or corrosion of copper pipes and heaters • Copper imparts an undesirable blue-green color to pool water <p>Iron:</p> <ul style="list-style-type: none"> • Can cause amber to rusty-brown discolorations of the water and/or underwater surfaces • Even iron levels as low as 0.1 ppm can cause problems • Iron is readily oxidized by chlorine, bromine and oxygen in water and may settle to the bottom as an insoluble form <p>Manganese:</p> <ul style="list-style-type: none"> • Can cause purple to brown-black discolorations of the water and/or underwater surfaces • Rarely present, except at very low levels, in municipally supplied water 	
<i>Hints/Preventive Maintenance:</i>	Pool surfaces can be affected by the water conditions that are maintained during the season, as well as the quality of the water used to fill the pool. Improper control of pH, Total Alkalinity and calcium hardness can cause scale formation, pitting, corrosion and staining of the underwater surfaces. Regular water testing should be practiced and always follow label directions carefully.	

POOL SURFACE PROBLEMS: Staining

There are three common causes of staining:

1. Minerals in the water
2. Algae
3. Microorganisms growing on the reverse side of the liner

You will need to determine what is causing the stain in order to treat it accordingly. First, determine if it is a mineral stain by placing ½ 1 lb. of **SUN Minus** in an old sock. Shut off the filter and drop sock onto the stain. If, within 15 minutes, you notice a change in the stained area, most likely the stain is due to minerals in the water. However, you should bring a water sample to your professional SUN dealer for complete analysis. If the stain does not respond to the “sock test”, it is likely to be caused by algae or growth on the reverse side of the liner. Unfortunately, there is no effective treatment for growth on the reverse side.

PROBLEM	POSSIBLE CAUSES	SOLUTIONS
Brown stains	<ul style="list-style-type: none"> • Presence of iron and other minerals • Presence of black algae 	<p>Lower the pH of the pool below 7.0 by adding SUN Minus to cause the mineral precipitate to redissolve. Once your stains have cleared up, vacuum and backwash the filter to remove any remaining waste. Afterwards, add SUN Super-Quest to avoid future recurrences. Don't forget to resume normal pH and/or Free Chlorine levels.</p> <p>If there is a slimy feeling present, the problem is more likely due to a dark-colored type of algae.</p> <p>For gunite pools (DO NOT DO THIS ON VINYL OR FIBERGLASS SURFACES):</p> <p style="padding-left: 20px;">Shut off the filter. Either: a) place a 3" tablet on top of stained area and allow treatment to remain in place overnight, or b) sprinkle SUN Black Algicide over the discoloration and allow granules to sink to the bottom directly onto stain to produce a high concentration of chlorine on affected area. Use brush to help remove discoloration. Add SUN Algicide 60 and SUN Phosphate Eliminator to help prevent future recurrences.</p> <p>For vinyl or fiberglass pools, follow treatment for Black Algae.</p> <p>Once your stains have cleared up, vacuum and backwash the filter to remove any remaining waste. Don't forget to resume normal pH and/or Free Chlorine levels.</p>
Purple stains	<ul style="list-style-type: none"> • Presence of manganese 	<p>Lower the pH of the pool below 7.0 by adding SUN Minus to cause the mineral precipitate to redissolve. Once your stains have cleared up, vacuum and backwash the filter to remove any remaining waste. Afterwards, add SUN Super-Quest to avoid future recurrences. Don't forget to resume normal pH and/or Free Chlorine levels.</p>
Pink stains	<ul style="list-style-type: none"> • Usually due to the presence of a type of algae or bacterial slime • May be indicative of a resistant organism in pools being maintained with biguanide. 	<p>Follow the instructions provided in the algae section.</p> <p>If the pool is being maintained with a biguanide sanitizer, it may be necessary to convert the pool to chlorine in order to effectively treat this problem. Refer to the section on alternative sanitizers for more information on conversion.</p>
Yellow stains	<ul style="list-style-type: none"> • Presence of iron 	<p>Lower the pH of the pool well into the acid ranges by adding SUN Minus to cause the mineral precipitate to redissolve. Once your stains have cleared up, vacuum and backwash the filter to remove any remaining waste. Afterwards, add SUN Super-Quest to avoid future recurrences. Don't forget to resume normal pH and/or Free Chlorine levels.</p>
Hints/Preventive Maintenance:	<p>Staining that is due to algae may be indicative of poor maintenance practices. Control of Free Chlorine and pH levels, as well as filtration, will ensure proper water quality. Minerals can also cause staining, and their presence in water – especially well water – can be determined by water testing. Maintenance doses of SUN Super-Quest, added weekly, will help minimize staining problems associated with minerals.</p>	

PROPER RANGES FOR POOL/SPA WATER

pH:	7.2 - 7.8 (ideal 7.2 - 7.6)
Total Alkalinity:	80 - 150 ppm
Free Chlorine:	1.0 - 3.0 ppm
Combined Chlorine:	less than 1.0 ppm above Free Chlorine
Bromine:	3 - 5 ppm
Calcium Hardness:	200 - 400 ppm
Cyanuric Acid (Stabilizer):	20 - 40 ppm in northern areas; 40 - 60 in sunbelt areas
Total Dissolved Solids:	maximum level 3,000 ppm
Iron:	0 ppm
Copper:	0 ppm