

BATHER COMFORT PROBLEMS

| PROBLEM | POSSIBLE CAUSES | SOLUTIONS |
|-------------------------------------|--|--|
| Bather Rashes & Irritations | <ul style="list-style-type: none"> • Inadequate sanitation caused by insufficient Free Chlorine • Very low pH readings (below 7.2) • Very high levels of chlorine • High levels of cyanuric acid | <p>Test the level of Free and Total Chlorine, keeping Free Chlorine between 1-3 ppm and Total Chlorine no more than 1 ppm higher than the Free Chlorine. If Free Chlorine is low, shock with SUN-Burn or SUN Booster in order to quickly raise the Free Chlorine level. If the difference between the Free and Total Chlorine readings is high, adding SUN-Brite will help reduce the difference and increase the Free Chlorine. Make sure the pH is maintained within the 7.2-7.8 range by adjusting with SUN Plus or Minus as necessary.</p> <p>High levels of cyanuric acid may lower the effectiveness of the chlorine present and, in turn, may hamper proper sanitation. Maintain the cyanuric acid within the recommended ranges of 20-40 in northern areas and 40-60 in sunbelt areas. Lower the stabilizer level by replacing some of the water.</p> |
| Odor Problems (Chloramines) | <ul style="list-style-type: none"> • Poor sanitation leading to algal and bacterial growth • High levels of combined chlorine (chloramines) can cause strong chlorine-like odors. • Urinating in the pool | <p>Test the water for Free Chlorine and pH and make sure that these parameters are within the optimum ranges. Growth of algae and/or bacteria can lead to odors. See Algae Problems for remedy. This is usually accompanied by the appearance of cloudy water.</p> <p>Shock the pool with SUN-Brite as directed, which converts the ineffective Combined Chlorine into Free Chlorine. Combined chlorine is very much more odorous than Free Chlorine – if you smell chlorine, it is probably combined chlorine. Free Chlorine is essentially odorless when used at proper levels in swimming pool water.</p> |
| Dry Skin | <ul style="list-style-type: none"> • Low pH causes Free Chlorine and bromine to be more irritating and drying • High Free Chlorine levels | <p>Maintain the pH within the 7.2-7.8 range with SUN Plus or Minus. To help control the pH, maintain the Total Alkalinity in the recommended range of 80-150 ppm with SUN Alkalinity Plus or Alkalinity Minus and test the water on a regular basis.</p> <p>Maintain a Free Chlorine level between 1-3 ppm.</p> |
| Swimmer's Ear (inner ear infection) | <ul style="list-style-type: none"> • Poor sanitation | <p>Swimmer's ear is a medical condition usually caused by the presence of the pseudomonas aeruginosa bacterium. Allowing water to remain in the ears after swimming can contribute to the problem. Medical attention should be sought as soon as possible. Make sure that the sanitizer level and water chemistry parameters are maintained in the optimum ranges at all times by testing the water regularly.</p> |
| Red Eyes | <ul style="list-style-type: none"> • Improper pH: The pH of the eye is approximately 7.6. Anything higher or lower will start to cause irritation to the eyes. • Poor sanitation • High levels of combined chlorine (chloramines) | <p>Test the pH frequently and add the appropriate pH control chemicals (SUN Plus or Minus), as required, to keep the pH within the optimum range of 7.2-7.8. Irritation of the eye's mucous membranes is usually due to the presence of high levels of chloramines. Shock the pool with SUN-Brite or SUN Booster as directed. Addition of 5-10 times the combined chlorine reading may be necessary in order to decompose all of the chloramines.</p> <p>Conjunctivitis is a medical condition that may result from the same bacterium that causes swimmer's ear. Medical attention should be sought as soon as possible.</p> |

BATHER COMFORT PROBLEMS (continued)

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|--------------------------------------|---|---|
| Green Hair | <ul style="list-style-type: none"> • Presence of copper ions in the water due to: <ul style="list-style-type: none"> a) Corrosion of copper pipes or heater components in acidic water (below 7.2) b) Copper present from natural sources (i.e., well water can contain copper ions) c) Use of copper sulfate, which should never be used in a swimming pool | <p>At the chemistry of the typical swimming pool, copper ions can precipitate and cause discoloration. If there is a heater, it is very important to avoid acidic conditions by properly controlling the pH and Total Alkalinity.</p> <p>Add a dose of SUN Super-Quest for each 0.5 ppm of copper present to chelate with the copper (prevent from precipitating out of solution) and avoid future recurrences. To remove the green discoloration from the hair, try shampooing in the usual manner. Generously apply Wella Balsam Hair Conditioner and allow to remain on for 15 minutes. Rinse thoroughly. Reapply daily or as needed.</p> |
| Hints/Preventive Maintenance: | <p>Maintain proper water chemistry by testing your water on a regular basis and the important water analysis parameters must be adjusted whenever necessary. The right amount of the right chemical is always best. Too much can be as bad as too little. Read the labels and follow the directions provided.</p> | |

| <u>PROPER RANGES FOR POOL/SPA WATER</u> | |
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| 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 |