POOL AND SPA MAINTENANCE INFORMATION

1. DEFINITIONS OF TERMS COMMONLY USED

- **ACID -** A granular or liquid product used to neutralize alkaline salts in water and lower the pH. (Note: Does not include cyanuric acid)
- **ACIDIC -** Condition when the amount of acid in the pool water causes the pH level to be less than 7.
- **ALKALINE** – Condition when the amount of alkaline or basic salts in the pool water causes the pH level to be greater than 7.
- **ALGAE -** Tiny plant growth in the water which may appear green, brown or black and may be spots on the shell or may appear as a green cloud suspended in the water.
- **ALGAECIDES** – Sanitizer particularly suitable to kill algae and prevent new algae growth.
- **BACTERIA -** Microscopic organisms which are continuously entering pool water via swimmers, dust, dirt, etc.
- **CHLORINE** – The most common disinfectant used in swimming pools to purify water and kill bacteria and algae. Common forms of chlorine used in swimming pools include sodium hypochlorite (liquid), calcium hypochlorite (granular or tablet), lithium hypochlorite or chlorinated isocyanurates. When any of these compounds contact water, they release hypochlorous acid (HOCl), the active sanitizing agent. Chlorinated isocyanurates, such as dichlor and trichlor combine chlorine with a stabilizer and are usually found in tablet form.
- **COMBINED CHLORINE** (Chloramines) – The portion of total chlorine in the water that has reacted and combined with ammonia, nitrogen-containing contaminants and other organics such as perspiration, urine and other swimmer waste. Chloramines can cause eye irritation and are the source of odors that people associate with chlorine.
- **CYANURIC ACID** (AKA Stabilizer, Conditioner) - Cyanuric acid can be purchased on its own or is included in many dry chlorine products to help slow the loss of chlorine in water due to the ultraviolet rays of the sun.
- **FREE CHLORINE -** The portion of the total chlorine remaining in chlorinated water that has not reacted with contaminants, and is "free" to go to work to kill bacteria and other contaminants. Test kits must be able to measure free chlorine and combined chlorine.
- **PPM -** Parts Per Million, the standard measure of concentration in swimming pools. An example is one penny in 1,000,000 or one penny in 10,000 dollars.
- **pH -** The reading on your test kit that indicates acidity or alkalinity level of water; readings above 7 are alkaline; readings below 7 are acidic; and 7 is neutral. California Code of Regulations, Title 22 requires pH of public swimming pools to be maintained between 7.2 and 7.8 as measured with a test kit.
- **SODA ASH -** A chemical which increases pH and total alkalinity. Used primarily to bring pH up when pool water is below 7.2.

- STABILIZER - Same as conditioner.

- SUPER CHLORINATION - (Shock Treatment) The practice of adding 5-10 times the normal daily chlorine dose to destroy algae, or to prevent problems after heavy bather loads or severe rains.

- **TOTAL ALKALINITY** - A measure primarily of the carbonates and hydroxides which, if kept around 100 PPM will help the pool water resist changes in pH. (ie: a buffer that stabilizes the pH)

- **TOTAL CHLORINE** - The total of both the free chlorine and combined chlorine levels.

2. COMMON POOL/SPA PROBLEMS AND SOLUTIONS

- **ALGAE** - Green, cloudy water and/or dark green or black spots on pool shell.

  CAUSES
  - Insufficient chlorine
  - Not following routine pool maintenance, including testing and shock treating
  - Plaster in bad shape (ie: etched or cracked)

  REMEDIES
  - Superchlorinate
  - Adjust pH 7.2 - 7.6
  - Brush spots with algae brush
  - Use approved algaecide
  - Refinish pool surface

- **CLOUDY WATER** - Water appears murky or cloudy looking

  CAUSES
  - Algae
  - Inefficient recirculation and/or filtration
  - Improper chemistry (pH and disinfection levels)
  - Calcium particles coming out of solution

  REMEDIES
  - Inspect recirculation equipment for proper size and operation.
  - Adjust pH 7.2 - 7.8
  - Maintain proper chlorine levels
  - Check water balance

SCALE - White, gray or brownish deposits on tile, railings, and the pool shell.

CAUSES
- Calcium deposits caused by excessively hard water
- Accumulation of dissolved solids (particles left as water evaporates)

REMEDIES
- Adjust pH to 7.2 - 7.8
- Use Scale of Iron Remover with a brush to remove scale deposits on plaster and tile
- C. Check water balance