



38 Luscombe Dr.
Simcoe, ON N3Y 0A2
PHONE: 519-426-3920
FAX: 519-426-4110

SWIMMING POOL INSTRUCTION MANUAL

Written by SIGI & PHIL GUIMARAES

519-426-3920
www.edgilpools.com



TABLE OF CONTENTS

AN INTRODUCTION TO EDGIL	4
PROTECT YOUR FAMILY: A GUIDE TO SAFETY	5
YOUR POOL PROGRAM	6-9
EQUIPMENT OPERATION	10
SUCTION	10
SKIMMER	10
PUMP	10
FILTER (SAND)	11
FILTER (CARTRIDGE)	12
HEATER	13
RETURNS	13
VINYL LINERS	14
SOLAR BLANKETS	14
SAFETY COVERS	15
VACUUMING	16
POOL CHEMISTRY	17
TESTING POOL WATER	17
WATER BALANCE	18
pH	18
TOTAL ALKALINITY	19
HARDNESS	19
CHLORINE	20
HOW CHLORINE WORKS	20
STABILIZER	20
STABILIZED CHLORINE	21
UNSTABILIZED CHLORINE	22
HOW TO USE CHLORINE	22
SALT WATER POOLS	23
BROMINE	24
ALGAECIDE	25
POOL OPENING INSTRUCTIONS	26
WINTERIZING INSTRUCTIONS	30

AN INTRODUCTION TO EDGIL

Edgil Pool Services Ltd is owned and operated by Phil and Sigi Guimaraes. We began by working for Edgil Bros Construction. In 1981 we purchased the swimming pool service and supply division of Edgil Pools to provide a dedicated service operation for pool owners. Back then it was just the two of us. Now Edgil Pool Services Ltd. has almost 20 employees and 5 service vehicles on the road to help meet our customer's needs. In 2006 we outgrew the old store on Highway 3 and built a new one at 38 Luscombe Dr., Simcoe.

We don't install pools but if you need chemicals, supplies, accessories, water testing, advice, or service such as openings, closings, or repairs, please contact us.

Phone	519-426-3920
Fax	519-426-4110

Or visit our store at 38 Luscombe Dr. in Simcoe. We are located at the West End of Simcoe - turn north off Highway 3 at Turkstra Lumber onto Luscombe Dr.

This booklet is an instruction manual for the operation and maintenance of your swimming pool. It is designed mainly for inground residential pools and by no means, covers every situation. If something in this manual does not appear to apply to your pool, we will be happy to help you determine the correct procedure.

We do not expect you to memorise all this information. Remember that we are here to help you.

ADVICE IS ALWAYS FREE.

PROTECT YOUR FAMILY: A GUIDE TO SAFETY

CHEMICALS:

1. Always add chemicals to water NEVER water to chemicals.
2. NEVER mix two chemicals together.
3. Store and handle chemicals with care; most are dangerous and toxic. Keep them out of reach of children.
4. NEVER add chemicals to the pool while it is being used.
5. Keep chlorine and pH levels in the recommended ranges.

GENERAL:

1. NEVER leave children unattended in or near the pool, even for a few minutes.
2. NEVER dive into shallow water and be very careful using the diving board. They are not designed for Olympic tryouts.
3. Always remove the solar blanket from the whole pool when swimming.
4. NEVER swim alone.
5. Keep gates latched/locked and in good repair. Gates must close themselves.
6. Remove vacuum equipment or automatic cleaners from the pool before swimming.
7. Keep all electrical appliances and extension cords away from the pool. Check G.F.I. circuits once a month.

MOST IMPORTANT: USE COMMON SENSE!

YOUR POOL PROGRAM Chlorine

Your pool contains _____ litres. Clean filter pressure _____ psi

1. Backwash your filter once a week for 4 minutes or when the pressure rises to _____ psi. Then rinse for 15 seconds.

2. Check the pH and chlorine every other day. Adjust when necessary.

		50,000	60,000	70,000	80,000	90,000	100,000	130,000
8.2	Easy Down	325 g	375 g	450 g	520g.	575 g	650 g	850 g
8	Easy Down	250 g	300 g	350 g	400 g	450 g	500 g	650 g
7.8	Easy Down	125 g	150 g	175 g	200 g	225 g	250 g	325 g
74 - 7.6	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
7.2	Easy Up	125 g	150 g	175 g	200 g	225 g	250 g	325 g
7	Easy Up	250 g	300 g	350 g	400 g	450 g	500 g	650 g
6.8	Easy Up	325 g	375 g	450 g	520 g	575 g	650 g	850 g

Sprinkle Easy Up or Easy Down directly into pool water. DO NOT SWIM FOR 10 MINUTES.

3. A) Refill puck canister or feeder once a week with _____ to maintain 1.0 to 3 ppm of chlorine.

4. Shock pool once a week (on Sunday night) with

A) _____ g of SHOXITE. Sprinkle directly into pool.

B) _____ g of _____ BY PLACING IT INTO A PAIL
ALREADY FULL OF WATER. Immediately stir for 2 - 3 minutes.

Wait 15 minutes. Pour the LIQUID ONLY into the pool. Pour the remaining powder into the skimmer.

C) _____ litres of LIQUID CHLORINE. Pour directly into pool.
DO NOT SWIM FOR 12 HOURS

5. OPTIONAL: Add _____ ml ALGAECIDE once a week, the day after you shock the pool.

6. Bring a water sample to the store once a month or whenever you have problems maintaining the proper pH or chlorine levels.

YOUR POOL PROGRAM

Bromine

Your pool contains _____ litres.

Clean filter pressure _____ psi

1. A) Backwash your filter for 4 minutes when the pressure rises to _____ psi. Then rinse for 15 seconds.

B) Cartridge filters need to be cleaned when the pressure rises 8-10 lbs above normal.

2. Check the pH and bromine every other day. Adjust when necessary.

		50,000	60,000	70,000	80,000	90,000	100,000	130,000
8.2	Easy Down	325 g	375 g	450 g	520 g	575 g	650 g	850 g
8	Easy Down	250 g	300 g	350 g	400 g	450 g	500 g	650 g
7.8	Easy Down	125 g	150 g	175 g	200 g	225 g	250 g	325 g
7.4 - 7.6	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
7.2	Easy Up	125 g	150 g	175 g	200 g	225 g	250 g	325 g
7	Easy Up	250 g	300 g	350 g	400 g	450 g	500 g	650 g
6.8	Easy Up	325 g	375 g	450 g	520 g	575 g	650 g	850 g

Sprinkle Easy Up or Easy Down directly into pool water. DO NOT SWIM FOR 10 MINUTES.

3. Top up brominator once a week to maintain 1.0 to 3 ppm of bromine. Bromine levels should be checked in the late afternoon.

4. Shock pool every two weeks (on Sunday night) with _____ g of SHOXITE. Sprinkle directly into pool.

5. Bring a water sample to the store once a month or whenever you have problems maintaining the proper pH or bromine levels.

YOUR POOL PROGRAM

Salt Chlorine Generation

Your pool contains: _____ litres. Clean filter pressure _____ psi

1. Cartridge filters need to be cleaned when the pressure rises 8-10 psi above the clean level.
2. Check the pH and chlorine every other day and adjust when necessary.

pH		50,000	60,000	70,000	80,000	90,000	100,000	_____
8.2	Easy Down	325 g	375 g	450 g	520 g	575 g	650 g	_____ g
8	Easy Down	250 g	300 g	350 g	400 g	450 g	500 g	_____ g
7.8	Easy Down	125 g	150 g	175 g	200 g	225 g	250 g	_____ g
7.4 - 7.6	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal	Ideal
7.2	Easy Up	125 g	150 g	175 g	200 g	225 g	250 g	_____ g
7	Easy Up	250 g	300 g	350 g	400 g	450 g	500 g	_____ g
6.8	Easy Up	325 g	375 g	450 g	520 g	575 g	650 g	_____ g

Sprinkle Easy Up or Easy Down directly into the water around the pool perimeter. DO NOT SWIM FOR 10 MINUTES.

3. Adjust the dial on the salt chlorine generator to maintain 1.0 to 3 ppm chlorine.
4. Shock pool once a week (on Sunday night) by setting Salt chlorine generator to “Superchlorinate” for _____ hours.
5. Check cell when prompted by the display and clean only if necessary. To clear the “inspect Cell” light press and hold the “Diagnostics” button for 3 seconds.
6. Add salt when prompted by the display on the salt chlorine generator.
7. Test & adjust Total Alkalinity once a month to maintain 100-140 ppm.

NOTE: Salt chlorine generators do not produce chlorine when the water temperature drops below 55 degrees Fahrenheit. In spring and fall you may need to manually add chlorine to your pool.

TOTAL ALKALINITY

Total Alkalinity is a measure of the amount of carbonates in the pool water. Carbonates come from dissolved limestone. The recommended level is: 100 to 140 ppm.

Total Alkalinity is the critical factor in determining how easy or difficult it is to maintain the pH at the proper level. Total Alkalinity should be checked once a month.

If the Total Alkalinity is too low, BUFFER must be added to the pool. Just sprinkle it over the surface of the pool water.

If the TOTAL ALKALINITY is too high, MURIATIC ACID is used to lower it. Do not add more than _____litre(s) per day. The solar blanket must be left off the pool during this treatment.

1. Test pH each day before adding acid. If the pH is below 7.2 then skip that day. If the pH is below 7.2 for more than 3 days, add Easy Up.

2. Shut the pump off 5 minutes before adding MURIATIC ACID and wait another 5 minutes after you have added the acid before turning the pump back on.

3. Pour acid in concentrated spots in the deep end of the pool. Pour directly from the bottle. Do not splash. Read cautions on bottle.

Do not swim for 30 minutes after adding acid.

Amount of muriatic acid needed to lower Total Alkalinity by 10 ppm

Pool Size:	Amount:	Example:
50,000	.8	
60,000	.95	Tested T.A.: _____
70,000	1.1	Ideal T. A.: _____
80,000	1.3	Desired Change: _____
90,000	1.45	Total Amount of acid needed: _____
100,000	1.6	
130,000	2.1	_____

EQUIPMENT OPERATION

SUCTION

The water flows from the pool to the pump through 2 lines. One comes from the SKIMMER at the side of the pool. The other comes from the MAIN DRAIN(s) at the bottom of the deep end of the pool. The flow is controlled by 3-way valve at the intake to the pump. Under normal operation both lines should be fully open. If the water in the pool is too low, the pool may be run with the SKIMMER closed and MAIN DRAIN open until the water is returned to normal operating level but it is dangerous to swim with this setting. The MAIN DRAIN is closed for vacuuming.



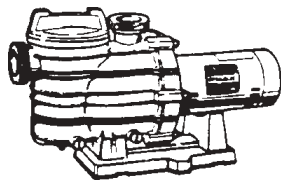
SKIMMER

The skimmer at the side of the pool is responsible for removing the surface dirt from the pool. To operate efficiently the water in the pool should be half way up the skimmer opening, the weir (flapper or floating type) must be in place, and the basket emptied regularly.

PUMP

The pump is responsible for moving the water through the filter, heater, pool, etc. Ideally, your pump and filter should run 24 hours per day for proper filtration. Cutting back on the hours of operation when the pool temperature is above 70oF (15oC) may increase the amount of chemicals and effort required to keep the pool clean. For information on pump options, check our web site:

www.edgilpools.com/pump.htm



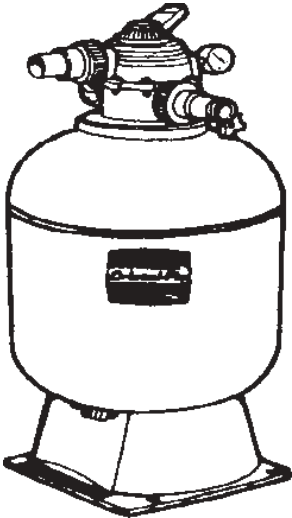
The basket in the pump must be in place and emptied regularly, especially after vacuuming. When replacing the lid, be sure the gasket is in place and hand tighten the lid well to prevent air leakage into the pump.

Hint: If you regularly have difficulty priming the pump after emptying the basket, close line to the skimmer and main drain before removing the lid to prevent the suction lines from draining back to the pool. Open the line again once the pump has been refilled with water, the lid replaced, and the pump turned back on. The tab on the 3-way valve handle needs to be trimmed so the valve handle can be turned to shut this line off.

Hint: If your pump is located below the water level of the pool, close the skimmer and main drain valves and put the filter multiport on 'closed' before removing the pump lid. Return them to normal once the lid has been replaced.

Hint: If the pump motor will not run, or just hums, before you call for service, check the breakers please.

Maintenance: If a leak develops under the pump, the mechanical seal needs replacing. Please have this looked after as soon as possible, before the motor is damaged. Also vacuum the air intakes on the motor occasionally to allow proper cooling.



FILTER (SAND)

The filter's job is to remove fine particles from the pool water. The MULTIPORT valve controls its operation. To prevent unnecessary strain on the pipes and valves, always **TURN OFF THE PUMP** before changing positions on this valve. The various positions and their functions are:

FILTER: This is the normal operating and vacuuming position. The water is pumped in from the pool to the top of the filter, down through the sand leaving the dirt behind, through fine slits in the plastic tubes (LATERALS) at the bottom of the filter and back to the pool.

BACKWASH: This position is used to clean the dirt from the filter. The water is pumped from the pool, through the slits in the laterals at the bottom of the filter, up through the sand taking the dirt with it and out the backwash line. Backwash for a full 4 minutes. Do not go by the color of the water as it comes out of the discharge hose. The finer dirt particles are deeper into the filter and take the full 4 minutes to be backwashed.

Sand filters must be backwashed when the pressure rises 3-5 psi above a clean filter reading. Pools using chlorine pucks must be backwashed at least once a week while other pools only need to be backwashed every two weeks. After backwashing, **RINSE**. --IMPORTANT: NEVER VACUUM ON BACKWASH--. This can clog up the slits in the laterals at the bottom of the filter, which requires removing all the sand from the filter to correct.

RINSE: Use this position for 10 seconds after backwashing or until water comes out clean, to resettle the sand and flush out any dirt sitting in the valve or lines.

WASTE: This position is also sometimes called DRAIN, not to be confused with MAIN DRAIN. In this position, the water flows from the pool and directly out the discharge hose, bypassing the sand entirely. It is used when lowering the pool water level or when vacuuming if the pool is extremely dirty or if the dirt is very fine such as dead algae.

RECIRCULATE: This position may also be called WHIRLPOOL on some filters. This is a filter bypass since the water flows from the pool and then right back to the pool without going through the sand. On a pool it is used only to recirculate the water if there is a leak in the filter tank itself.

CLOSED: This position may also be called TEST on some filters. It is ONLY used when the pump is off, if your filter and pump are located below water level. In that case it is used to prevent back flow from the pool when removing the pump lid.

Note: Respect municipal discharge bylaws.

Note: Filter sand should be good for many years, if the water balance is properly maintained and it is backwashed properly.

Hint: If the pool water is cloudy and will not clear, check and make SURE that the multiport is on 'filter'.

Hint: Sand filters have difficulty removing extremely fine particles such as dead algae from water. They tend to pass right through the filter. This can be solved by using a filter aid such as POLISH PLUS or NUBLU. Ask our staff for advice as to usage.

FILTER (CARTRIDGE)

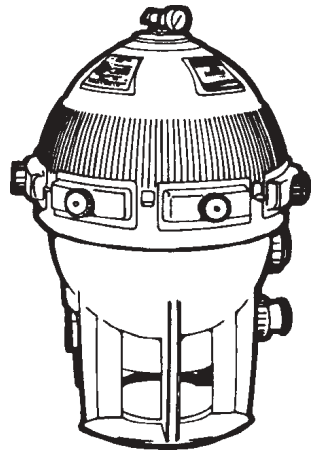
Cartridge filters come in a variety of sizes. Large ones can hold up to a full season's dirt. Because a cartridge filter does not need to be back-washed you save on water and chemicals. If the pressure rises 8 to 10 psi above clean level, remove the cartridge from the filter and hose off the dirt. If you use a powerwasher, do not use too much pressure or you will cause damage. Do not clean them at a carwash - wax residue can permanently seal them.

Bring the cartridges to Edgil Pool Services Ltd. at the end of the season for a thorough cleaning including degreasing and descaling.

Open the bleed valve at the top of the filter to purge the air. This permits full usage of the cartridges for filtration. The screen on the air tube inside the filter will need occasional cleaning.

To lower the pool water level open the valve at the bottom of the filter, but please respect municipal discharge bylaws.

Hint: To speed this up, put the winter plugs into the returns.



HEATER

The most common type of heater is natural gas but heat pumps are also popular due to their much lower operating costs. A gas heater will still be your choice if your major priority is getting the pool temperature up the fastest way possible.

IMPORTANT: Heaters are very sensitive to problems with water balance since copper heat exchangers corrode and scale very easily.



IMPORTANT: Remember to turn off your GAS HEATER about 15 minutes before backwashing or shutting off the pump, to avoid damaging plastic filter parts and plumbing due to the residual heat in the heater.

Hint: If your heater will not come on, check your water flow. Empty all baskets and clean/backwash your filter before you call for service.

Hint: If you have a heat pump, make sure that the air intakes are not clogged with dirt. Clean them regularly with a garden hose.

Note: Please do not ask our service crews to turn on or repair your gas heater, as this requires a gas licence. We do carry the gas and water parts for these heaters should you require them.

For more information on heating your pool with gas (natural or propane), solar, heat pump or electric heaters, see our website:

www.edgilpools/heaters.htm

RETURNS

The water flows back to the pool through the returns/jets. The eyeballs in these returns should be in place, aimed slightly downward and pointed in such a way as to push the water and surface dirt all the way around the pool so it can reach the skimmer. Dead spots may not get adequate amounts of chemicals and thus become the best place for algae to get a foothold.

VINYL LINERS

For maximum liner life and beauty follow these rules:

1. Keep your pool water clean and balanced; have it tested once a month.
2. NEVER let the water level get less than 6" in the shallow end. If you ever feel that draining the pool is the only way out, call us first for possible alternate solutions. You may shrink the liner and void the warranty.
3. When using chemicals, always follow directions, especially in premixing SHOCK and when closing the pool.
4. Clean the liner above the water line at least twice a year, using TILEX or VINYL PLUS and a brush or a sponge. NEVER use household cleansers or scouring pads particularly steel wool since it will cause permanent rust spots.
5. Prolonged high water temperatures, prolonged high chlorine or bromine levels, or low pH may cause permanent liner wrinkles.
6. Liner wrinkling is not covered under any warranty.

For more info: www.edgilpools.com/liners.htm

SOLAR BLANKETS

Yes, removing and replacing solar blankets can be a pain but they DO keep the heat in the pool and rollers can be used on most pools to make it easier.

Some hints on the use and care of solar blankets are:

1. To maximize the life of the blanket, when the blanket is off the pool, cover it to protect it from sunlight. White plastic covers are available at the store for this purpose.
2. On sunny days with very little wind remove the blanket for maximum heat gain. On windy days, it is better to leave the blanket on to prevent heat loss through evaporation.
3. Remove the blanket at least every second day for a couple of hours, to allow the top few inches of water to circulate properly. If the blanket is left on for extended periods, algae will start to grow in the pool.
4. After shocking the pool, leave the blanket off overnight to allow the pool to breathe.
5. If you get algae in the pool, and the blanket has been on the pool, it may be contaminated, and must be treated or it may recontaminate the pool. The best way to do this is to put the blanket on the pool for 15 minutes about 1/2 hour after the pool has been shocked. If possible, wash the top of the blanket as well.
6. Liquid solar blankets (TURBOFISH) are an alternative.

Safety Covers

Safety covers are becoming more popular for inground pools. They resemble a trampoline stretched tight over your pool using heavy duty springs. They are attached to brass anchors drilled into the concrete or wood around the pool.

Used properly, safety covers will keep children and pets safe if they wander onto the pool. Pets that used the pool safely all summer long cannot get out after the pool is closed with a regular cover. Children have been known to break through the ice on a partially frozen pool.

Safety covers come in a variety of colours. Most are made of mesh and allow rain water to drain through. Any leaves on top of the cover usually blow off, so the cover stays clean and your yard looks presentable all winter long.

Removing the cover in the spring is quick and easy. The pool may have some algae, requiring chlorine, algaecide and clarifier to clear it up.

We recommend that pools with safety covers be run until late September and opened by mid-May to keep the algae from getting out of hand. Some safety covers owners put the cover on the pool earlier in the fall or leave it on in the spring to keep out leaves, blossoms, etc and keep the pool running normally underneath. Another option is to use both a vinyl hanging winter cover with a safety cover over top.

If you are going on vacation in the summer, you may want to put the safety cover on the pool to prevent unauthorized visitors.



VACUUMING

1. Backwash the filter (2-3 minutes) if necessary.
 2. Close the MAIN DRAIN(s).
 3. Attach the pole and the hose to the vacuum head and put the head in the pool
 4. Fill the hose by:
 - a) Feeding it slowly back into the pool -or-
 - b) Holding the other end in front of a return. Hint: Get someone to hold the pole while you do this or it will take off on you.
 5. Remove the basket from the skimmer and plug the hose directly into the suction line -or- if there are a lot of leaves, stones or sticks in the pool, attach the hose to the round vacuum plate and place it on top of the skimmer basket. Hint: To get the vacuum plate off the skimmer basket to empty it, turn off the pump first.
 6. Vacuum the pool. Hint: Use your legs to move the pole rather than your arms or moving your hands up and down the pole. Use short (2-3 ft) strokes. Keep the vacuum head flat on the bottom of the pool on both the push and pull strokes.
 7. When you are finished, detach vacuum equipment. If you used the vacuum plate turn the pump off first. Empty the pump basket. Open the main drain. Backwash filter (4-5 minutes).
- * Hint: If suction drops off while you are vacuuming:
- a) Empty skimmer basket if you are using the vacuum plate.
 - b) Empty the pump basket.
 - c) Check if the filter pressure is up, and backwash (2-3 minutes) if necessary.
- * Hint for sand filters: Normally, the pool is vacuumed with the multiport set on 'FILTER' but if there is a lot of dirt or very fine dirt, such as dead algae in the pool, set the multiport on 'WASTE'. You will lose some water, but you will not have to stop and backwash in between. Also, dead algae, for example, is so fine that it passes right through the sand and back into the pool. The pool goes cloudy and a few days later you find yourself vacuuming up the same dirt again, after it has resettled. You may want to raise the water level in the pool before you start.
- * Hint for cartridge filters: Cartridge filters can handle fine dirt better than sand filters but if there is a lot of it, put the winter plugs into the returns, open the drain at the bottom of the filter and vacuum the pool to waste. You may want to raise the water level in the pool before you start.
- * Hint: Do NOT try to vacuum if you cannot see what you are doing. All you do is stir the dirt around, and make the pool cloudier.

POOL CHEMISTRY

TESTING POOL WATER (AT HOME)

You should test the pH and chlorine or bromine levels of the pool water every other day. We suggest that new pool owners test their pool daily for the first few weeks, until they get a feel for how the water reacts to various situations such as temperature, rain, lots of swimmers, etc. The pool should also be tested more frequently in very hot weather, and in small pools (under 50,000 litres) since the levels change much more quickly under those conditions.

To test your pool:

1. Rinse the tubes with pool water.
2. In front of the skimmer, take a sample at elbow depth. This is the most accurate indication of the whole pool.
3. Tap the water down to the lines on the tubes.
4. Add 5 drops of OTO to the chlorine or bromine side. Add 5 drops of phenol red to the pH side.
5. Replace the caps, and turn the tubes up and down a few times until they are mixed.
6. IMMEDIATELY compare the colours, and take your reading.
7. Empty the tubes (NOT into the pool) and rinse them.
8. Store the test kit out of the sun and keep it from freezing.

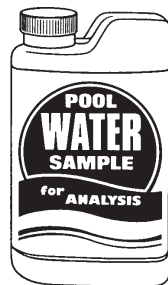
Hint: If the chlorine or bromine reading is orange or rust-coloured, it means the chlorine or bromine level is very high. This usually occurs after shocking. Do not be concerned unless the condition persists for more than a few days. (See chlorine or bromine.)

Hint: If the chlorine or bromine reading is higher than 3.0, and the pH appears too high or a purple colour, do NOT correct the pH. It is probably a false high reading caused by interference from the high chlorine or bromine levels. Test again the next day.

Also available are test strips which check for free chlorine, pH, and Total Alkalinity. Some people find these more convenient.

TESTING POOL WATER (AT THE STORE)

The pool water should be tested by our staff once a month, or whenever you have difficulty keeping the pH, chlorine or bromine levels where they should be. We will check the WATER BALANCE and in chlorine pools, the STABILIZER levels. This service is FREE to our customers and free water sample bottles are also available at the store.



WATER BALANCE

Water balance is made up of four major factors. They are pH, Total Alkalinity, Hardness, and Temperature. Since the temperature of pool water is a given factor, we must concentrate on the other three. If one or more of these three is too high, the water is SCALING. If one or more of these is too low, the water is CORROSIVE.

SCALING

Scaling water causes:

- a. more frequent filter cleaning
- b. reduced filtration
- c. cloudy water

Over long periods it can cause:

- d. filter sand to harden
- e. rough buildup on pool walls and bottom

CORROSION

Corrosive water causes:

- a. stripping of metal parts (especially copper and steel heat exchangers in heaters).
- b. staining

pH

pH is a measure of how acidic or basic a material is, in this case water. It is a scale from 0 to 14 with 7.0 being neutral. Below 7.0 the water is acidic, like vinegar. Above 7.0 the water is alkaline or basic, like baking soda.

Since the pH of our eyes is 7.5, we try to keep the pool water at 7.4 - 7.6 for bather comfort. Also, the chlorine in the pool does not work very well at higher pH levels.

If the pH of the water is too low it causes:

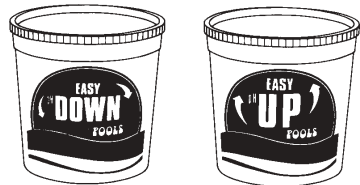
- a. corrosion
- b. permanent liner wrinkles
- c. eye irritation

If the pH of the water is too high it causes:

- a. scaling
- b. chlorine inefficiency
- c. skin and eye irritation

This is the most critical of the water balance factors, so it should be checked 2 to 3 times a week.

If the pH is too low, add EASY UP as per YOUR POOL PROGRAM. Just sprinkle it on the surface of the pool water. Do NOT swim for 10 minutes.



If the pH is too high, add EASY DOWN as per YOUR POOL PROGRAM. Just sprinkle it on the surface of the pool water. You can use Muriatic Acid instead, but this is a much more dangerous chemical. When using muriatic acid to lower the pH pour it slowly into the pool in front of a return. Do NOT swim for 10 minutes.

If the pH needs adjusting every time you test the water then it is time to bring a water sample to the store for testing.

TOTAL ALKALINITY

Total alkalinity is a measure of the amount of carbonates in the pool water. The recommended level is: 100 to 140 ppm in chlorine pools and 100 to 150 ppm in bromine pools.

The Total Alkalinity is the critical factor in determining how easy or difficult it is to maintain the pH at the proper level.

If the Total Alkalinity is too low, it causes:

- a. corrosion
- b. pH bounce, that is, wild fluctuations in the pH
- c. in bromine pools, increased bromine use

If the Total Alkalinity is too high, it causes:

- a. scaling
- b. a tendency for the pH to go up.

High Total Alkalinity usually comes from the water that is added to the pool. Low Total Alkalinity is caused by acid rain, the use of certain chemicals, or the source of the water that is added to the pool.

Total Alkalinity should be checked once a month and whenever there is a problem keeping the pH at the proper level.

If the Total Alkalinity is too low, BUFFER must be added to the pool. Just sprinkle it over the surface of the pool water.

If the TOTAL ALKALINITY is too high, MURIATIC ACID is used to lower it. See page 9 for instructions.

HARDNESS

This is a measure of the amount of calcium in the pool water. The term originated with people doing laundry because water with high calcium levels is 'hard' to get suds in. Water with low hardness is called 'soft' water. Rain water is very soft as is the water in Lake Erie.

Please do NOT use softened water (water from which the calcium has been removed) in your pool except at our staff's recommendation, since pool water needs a certain amount of Hardness. The proper level is 175 to 300 ppm.

If the water is too soft, it is corrosive. Add MORCAL to increase the hardness.

If the water is too hard, it is scaling. Add SHIELD to tie up the calcium.

CHLORINE

Chlorine is used in swimming pools as a disinfectant (to kill bacteria and viruses) and as an algaecide (to prevent the growth of algae and to kill it, if it is present).

Chlorines can be divided into 2 main categories:

- a. STABILIZED CHLORINES (contain STABILIZER)
- b. UNSTABILIZED CHLORINES (do not contain STABILIZER)

The other important factor to consider with chlorines is their comparative strength. This is indicated in the form of a percentage of AVAILABLE CHLORINE CONTENT or ACC. This should not be confused with the chemical composition of a product. For example, stabilized granular chlorine, STACHLOR, contains 100% sodium dichlor but has only 63% available chlorine.

HOW CHLORINE WORKS

When any chlorine product is added to pool water, it produces FREE CHLORINE. This form of chlorine is a good disinfectant and a good algaecide (if the pH is in the proper range) and has almost no chlorine odour. At 1-3 ppm chlorine will kill germs, viruses & bacteria, however, when it comes into contact with organic materials such as body oils, suntan lotions, ammonia (urine), nitrogen (rain) & algae, instead of oxydizing them it will lock up with them and forms combined chlorines. These are a very poor disinfectant and have a very strong chlorine like smell and, since they are related to teargas, cause severe eye irritation. To get rid of these combined chlorines you raise the chlorine level in the pool. This is called SHOCKING or SUPERCHLORINATION. At higher chlorine levels, the contaminants that were combined with the chlorine, are burned off or oxidized from the water and the chlorine freed up.

As you can see, when people tell us that they are allergic to chlorine, we find that most of them are allergic to poorly maintained pools, that is, pools that are not shocked regularly. This is, unfortunately, the case with most public pools.

Unfortunately, most test kits use OTO which does not differentiate between free and combined chlorine, so we suggest that pools be shocked once a week on a regular basis.

STABILIZER

Stabilizer is a chemical which is added to pool water in chlorine pools to protect the chlorine in the water from being burnt off by the sun. The proper stabilizer level in pool water is 25 to 75 ppm. In this range, the chlorine in your pool will last 4 times longer.

Below 25 ppm, the stabilizer has no effect at all, and on a sunny day your chlorine levels will drop rapidly. When your pool is first filled with fresh water, our staff will recommend the right amount of stabilizer to bring

it up to this level. Since the test for stabilizer is only accurate within 5 ppm, you may find that our staff will recommend adding a little more stabilizer if our later tests show a reading of 25 ppm.

On pools using unstabilized chlorine or salt water pools we bring the stabilizer to 40-60 ppms to allow for backwashing and splashout.

Above 100 ppm, the stabilizer may tie up the chlorine so thoroughly that it prevents it from attacking the dirt in the pool. The pool may have a high chlorine reading and still turn green. This is known as **OVERSTABILIZATION** or **CHLORINE LOCK**. The only way to lower the stabilizer level is to dump some of the water from the pool, and add fresh water. The way to prevent this from occurring is to add extra stabilizer to the pool only if the water has been tested and the test indicates that it is required, and by using stabilized chlorines in the recommended dosages. Our staff will advise you if the stabilizer reading is getting high.

DIRECTIONS FOR ADDING STABILIZER:

1. Backwash sand filters for 4 minutes and rinse for 10 seconds.
2. Clean the pump basket thoroughly.
3. Close the Main Drain line.
4. With the pump on, pour the stabilizer slowly into the skimmer. Allow about 1 minute per kilogram.
5. Open the main drain and run pump and filter for at least 24 hours before backwashing.

STABILIZED CHLORINE

Stabilized chlorines contain enough stabilizer to replace the stabilizer that is lost through backwashing, splashout, etc. Stabilized chlorines come in three main types:

A. **PUCKS** contain 90% available chlorine, and usually are the best buy in stabilized chlorines. They are a slow dissolving tablet and are the most convenient to use in most pools.

They come in three sizes:

a. **PUCKS**: a 60 gram tablet and the most popular size, designed to be used in the skimmer cannister.

b. **SUPERPUCKS**: a 200 gram tablet used in a skimmer cannister in pools with 80,000 litres of water or more and also in most newer chlorinators.

c. **MINIPUCKS**: an 18 gram tablet used in many older chlorinators and in floating chlorinators for pools without skimmers.



B. STACHLOR stabilized granular chlorine contains 63% available chlorine. It must be handfed into the pool every day. It should never be used in place of an unstabilized chlorine for shocking the pool since overstabilization can occur very easily.

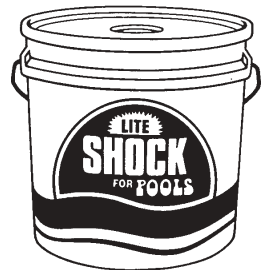
UNSTABILIZED CHLORINE

Unstabilized chlorines contain no stabilizer. They are the correct products to use for shocking the pool. If they are used instead of a stabilized chlorine for daily chlorination, extra STABILIZER must be also be added to the pool regularly to maintain an adequate level.

In salt water pools, unstabilised chlorine is generated, through electrolysis, by an inline cell from the dissolved salt in the water.

The different types of UNSTABILIZED CHLORINE are:

A. SHOCK & SUPER SHOCK. A granular product which contains 65% available chlorine. It can be stored for extended periods and is a medium priced product. For use in vinyl liner pools, it must be predissolved in water to prevent liner bleaching. It does cause some cloudiness in the pool but this will normally disappear within 12 to 24 hours.



B. LIQUID SHOCK, or LIQUID CHLORINE as it is often called, contains about 10% available chlorine. It is the cheapest form of chlorine available to residential pool owners. It is bulky and heavy to handle. It deteriorates rapidly in storage especially at warmer temperatures. For example, at 47°C, not unusual in a cabana, it loses half its strength in 14 days. We highly recommend this form of chlorine whenever a large amount of chlorine needs to be used at one time, such as for openings, closings, and clearing up green pools.

C. SHOXITE: This is actually not a chlorine product at all but is discussed here since it may be used for shocking pools. It is a good oxidizer, freeing the combined chlorine/bromine and reactivating the spent chlorine/bromine ions in the pool water. (See 'How Chlorine Works') It is a very easy product to use and is sprinkled directly into pool water. We do not recommend it, though, for openings or for clearing green pools.

HOW TO USE CHLORINE

Usually, we try to maintain a chlorine level of 1.0 - 1.5 ppm of free chlorine in the pool. Chlorine levels of 1.0 or higher are sufficient to keep the pool disinfected and prevent algae from starting to grow.

In above ground pools and other pools that have a HIGH BATHER LOAD, that is, a lot of swimmers for the size of the pool, we aim for 1.5-3.0 ppm of free chlorine. This allows more margin for chlorine to be tied up by contaminants before the free chlorine drops below the critical 1.0 ppm mark. It is much easier and less expensive to keep a pool clear than to clear up a pool that has turned green because of algae.

If you are unable to keep the chlorine in the recommended range under normal conditions when the water temperature is in the normal range (75o to 85oF) (25o to 30oC), the daily dosage may need to be changed or there may be a problem with contaminants such as algae. Have your water tested and ask our staff for advice.

We recommend that the pool normally be SHOCKED once a week on Sunday night: on Sunday, to eliminate the combined chlorines resulting from the heavier weekend bather load; at night, to allow the chlorine to work overnight without interference by sunlight and because you should not swim for 12 hours after shocking (unless you are using the “superchlorinate” function on a salt chlorine generator.)

The pool should also be shocked whenever the chlorine level drops below 1.0 ppm. This can occur:

- a. after a heavy rainstorm, especially thunderstorms
- b. during hot spells
- c. after a pool party

You may also want to shock the pool the night before a pool party to raise the chlorine level in anticipation of the contaminants that will be introduced.

If you ever find that your chlorine reading is 0, but the pool is clear or only slightly hazy, IMMEDIATELY SHOCK THE POOL WITH TWICE THE NORMAL DOSAGE of unstabilized chlorine because algae has started growing. If the pool is more than slightly hazy, call the store for recommended dosages to clear it up. The superchlorinate function on a salt chlorine generator may not be sufficient in a case like this.

SALT WATER POOLS

First of all, salt water pools are NOT ‘chemical-free’.

Salt is added directly to the pool and a machine called a chlorine generator installed. By electrolysis this device acts on the salt (sodium chloride) to produce the same form of chlorine (HOCL) as when any other sort of chlorine is added to the pool. (See “How Chlorine Works”)

The chlorine level in the pool must be checked regularly with your test kit. The amount of chlorine produced can then be adjusted on the control panel. There is also a ‘superchlorinate’ function to ‘shock’ the pool. This is more convenient than adding tablets, powders or liquids.

To prevent scaling, staining and corrosion, keeping the water balanced is especially important on salt water pools. The pH, total alkalinity and hardness must be maintained in the proper range.

Most people enjoy swimming in a salt water pool. The water has a 'soft' feel. It is not like swimming in the ocean. Recommended salt levels for pools vary from 1600 to 4000 ppm depending on the manufacturer of the system. Ocean salt levels are about 35,000 ppm.

If water is lost from the pool due to backwashing, splash out, draining excess rain water or a leak, the salt in the pool may need to be topped up. The pool also needs stabilizer to protect the chlorine from sunlight. Since the stabilizer and salt levels go down together, the easiest way to add both salt and stabilizer is by adding GEN-R-8 CONDITIONER CL. Water lost to evaporation does not reduce these levels.

We recommend the use of cartridge filters on salt water pools. As noted, backwashing of sand filters reduces pool salt levels requiring regular additions of salt. Cartridge filters do not require backwashing.

IMPORTANT: If your control panel keeps asking for more salt after you have added the recommended amount please have the water tested and consult with our staff before adding more as you may have a false reading.

The cell that produces the chlorine will need occasional cleaning with an acid solution such as Mursatt CELL CLEANER. How often will depend on how balanced your pool water is.

BROMINE

Bromine is a chemical alternative to chlorine. It comes in tablet or supertab form. It is more expensive to use: about 50% more expensive than the PUCK/SHOXITE system, but it has several advantages. Once the brominator (chemical feeder required for bromine) has been properly adjusted, the pool can easily be left to run for a week at a time. Bromine pools do not require frequent shocking since bromine combined with contaminants (combined bromine) is still a good disinfectant and does not cause eye irritation. Bromine does not lose effectiveness at higher pH levels as quickly as chlorine.

Some hints for looking after a BROMINE pool:

1. Shock the pool occasionally (every 2-3 weeks) with an unstabilized chlorine or 'Shoxite' to burn off or oxidize the accumulated contaminants from the pool and restore its sparkle. (See 'Unstabilized Chlorines'.) When chlorine is added to a bromine pool it immediately acts to reactivate the bromide salts in the water so you do not get the disadvantages of chlorine. As a matter of fact, if you check the chemical formula of bromine tablets, you will see that they



actually contain chlorine.

2. It is very important that the balance of your pool water be checked regularly once a month since bromine will lower the Total Alkalinity of the water. When the Total Alkalinity is low, your bromine consumption will increase.

3. Top up the brominator once a week since the amount of bromine getting to the pool is influenced by how full the brominator is.

4. Test your pool in the late afternoon or early evening if possible. Bromine, unlike chlorine, cannot be stabilized against sunlight, so this is when the bromine level is at its lowest. If you can adjust the brominator in such a way that you get a reading of 1.0, the minimum recommended, at this time on a sunny day, you are making the best use of your bromine and still keeping the pool safe to swim in.

5. When bromine is first introduced to a pool, a bromine bank must be established. This may be done by running the brominator wide open for several weeks -expensive- or by adding Bromine Salts (PRETREAT). A smaller amount of this chemical may be added in the spring if large amounts of fresh water are added.

6. To adjust the level of bromine in the pool, turn the calibrated valve on the brominator. Make small adjustments. If you cannot get the bromine level down enough with this valve, try not filling the brominator all the way.

ALGAECIDE

First, to repeat our earlier statement: CHLORINE is the most effective algaecide available. In some cases, chlorine alone, in sufficient quantities, is capable of clearing up an algae problem.

There are two main types of algaecides:

A. ALGON is a 10% duo quat algaecide which we recommend for weekly use as an insurance policy on chlorine pools. If the chlorine drops below 1.0, it will keep algae from growing in the pool for a little longer.

B. 4LG (40%) and MBA60 (60%) are concentrated algaecides which we recommend for stubborn algae problems. If you have a stubborn or recurring algae problem in your pool, please ask for advice.

Note: If algae sticks to the sides or walls of your pool and does not come off easily, it is ALIVE. Do not try to vacuum it, until it is dead. Remember to use the 'waste' setting on sand filters for vacuuming dead algae. (See 'Vacuuming')

Note: All algae is not green. BLACK ALGAE appears as dark spots or streaks on the liner. PINK ALGAE is a film on the walls: it can be identified by running your finger along the wall below the water level and bringing it to the surface. You will see an orangey-pink residue. MUSTARD ALGAE forms a yellowish film on the walls and bottom of the pool. SLIME MOULDS form a white slime on cartridge filters. For these algae, special treatment will be required. Call us for instructions.

Opening Instructions

1. REMOVE COVER.

The first thing to do is to remove the water from the top of the cover. This can be done in several ways but please respect your neighbours and all municipal or other regulations.

A. Remove the gizzmo from the skimmer. Fill the skimmer and skimmer line with water. Fill the vacuum hose with water and place one end, the one that does not swivel, into the skimmer and attach the other end to your vacuum head and then place it upside down in the water on top of the cover. Put all plugs, pressure gauges, and air bleed valves back on the pump, filter, heater and chemical feeder. (see below) Set your valves so that the skimmer line is open and the main drain line is closed.

FOR SAND FILTERS: Put the filter multiport in the 'waste' or 'drain' position. The water will come out the backwash line.

FOR CARTRIDGE FILTERS: Make sure the cartridges are not in the filter. Unroll the discharge hose. Open the discharge valve on the filter.

Fill the pump with water and turn it on. It will take a few minutes to prime. This is the same process you use to vacuum the pool. Be careful not to suck up large debris that may clog the lines. If you have a lot of leaves you will want to set up some sort of screen on the vacuum head.

B. Using a variation of the method above you can also pump the water back under the cover. This method is useful in areas where water is expensive or scarce, or if the water table is high. We suggest you open the pool by the middle of May if you plan to do this. Be aware that you will need more chemicals since rainwater is acidic, very soft and rather dirty. You may want to carefully add chlorine to the water on top of the cover before you start. To use this method you must remove the plugs from the returns in the pool before starting the pump.

FOR SAND FILTERS: put the multiport in the 'recirculate' position.

FOR CARTRIDGE FILTERS: leave the discharge valve closed.

C. You could also rent or buy a pump to use for this purpose, such as a submersible pump, gasoline pump, etc or if your pool permits, you could set up a siphon.

When the water is ALL gone and you have scooped out ALL the leaves etc., you are ready to remove the cover. You may find it helpful to stick the garden hose under the cover at this time and raise the pool water level to make it easier to pull the cover off. When you have finished cleaning the cover, we recommend fan folding it and then rolling it. It will be much easier to put back on next fall.

For WATERBAG COVERS, the best way is for two people, one on each side of the pool, to start gathering up the cover. Work from the deep end to the shallow end, then if any dirt happens to fall into the pool, it will be in the shallow end. Wash the cover with COVER CARE to clean and preserve it. Plastic covers may be stored dry. Throw out all leaky waterbags, then clean the rest with Mursatt Tilex and roll (do not fold) them up for storage.

With VINYL HANGING COVERS it is easier to simply remove the cover wedges or clips and disconnect the cover from the coping, letting the vertical part of the cover fold forward. This will act as a temporary dam to keep the pool water off the cover. Then pull the cover slowly towards the shallow end. If you are left with a small pocket of water at the end, scoop it out before trying to lift the cover. Clean the cover. Then, to prevent shrinkage, store vinyl covers in large 40 gallon container filled with water and ½ litre of 40 WINKS algaecide. Check the cover several times during the summer in case the container leaks.

SAFETY COVERS may be cleaned on or off the pool. Once they are dry, please store them where mice will not build nests in them. Remove the centre bolt from the anchors, clean the anchor and spray the bolt with a silicone spray before reinstalling it. DO NOT OVERTIGHTEN.

2. EQUIPMENT AND ACCESSORIES

When replacing plugs in the equipment, remove any old Teflon tape and apply new to get a good seal. Check all orings for cracks (replace them if needed) and lubricate with a silicone lubricant, such as Jacks. Please do not use petroleum based products. Check and tighten all clamps. Grease all bolts.

Clean and grease the anchor bolts and then install the LADDERS. Make sure that the ladder bumpers are in place and in good condition. Clean the SLIDE and reconnect its water line. Inspect the DIVING BOARD. Make sure all bolts are tight and that there are no cracks in the board or base. Dewinterize any DECK JETS or water cannons. Clean the lenses on the pool LIGHTS and reinstall any that were removed for the winter. If the bulb was removed for the winter, make sure that the oring behind it is also put back. Do NOT test them above water level.

While the water level in the pool is down is a good time to clean the LINER. Use Mursatt TILEX or VINYL PLUS and a brush or a sponge. Do NOT use household cleansers or scouring pads since these can damage the liner. Remove the winter plugs from RETURNS in the pool. Reinstall the EYEBALL assemblies with the narrow side facing the pool and aim them slightly down and around the pool to achieve good circulation. Remove the gizzmo from the skimmer if that has not been done yet and install the skimmer basket. Then FILL THE POOL with water to half way up the skimmer.

PUMP – reinstall both plugs and the basket. Check the condition of the power cord and test the GFI circuit.

SAND FILTER – reinstall the bottom drain cap, the pressure gauge and the sight glass (if there is one). Be very careful NOT to cross thread or over tighten the gauge as you can crack the multiport head. Put the multiport handle on backwash while you are priming the pump.

CARTRIDGE FILTER – check the orings inside the bottom of the filter, then install the clean cartridges. Make sure the drain valve is closed.

HEATER – reinstall the drain plugs. On many gas heaters, reattach the pressure switch to the siphon loop inside the heater. If you notice anything unusual, please call a licensed gas technician, before you try to start the heater.

CHEMICAL FEEDERS – reinstall any plugs.

SALT CHLORINE GENERATORS – if it was not cleaned last fall, clean the cell using the GEN-R-8 Cell Cleaning Kit (See below for further instructions) If it was taken inside, reinstall it.

Once all the equipment is ready, fill the pump with water, put the cover on and turn it on. It may take up to 5 minutes to prime.

If you are not using a mesh cover, and your pool was in good condition when it was closed, the water should be clean and clear when you remove the cover. SAFETY COVERS allow rain, dust and a certain amount of light through the cover. We recommend that these pools be opened by mid-May to avoid the algae getting out of hand. They will require additional amounts of chlorine and algaecide at start up. To remove larger amounts of dead algae or other sediment from the bottom, you may want to VACUUM the pool to 'waste' either before or after adding chemicals depending on the situation.

FOR SAND FILTERS: Connect the vacuum in the normal way. Put the filter multiport in the 'waste or 'drain' position. The water will come out the backwash line.

FOR CARTRIDGE FILTERS: Connect the vacuum in the normal way. Put the winter plugs back into the returns in the pool. Unroll the discharge hose. Open the discharge valve on the filter.

3. CHEMICALS

When the pool is full, let the water circulate for 24 hours and then bring a water sample to the store for testing, to ensure that the hardness, total alkalinity, salt and stabilizer are at the proper levels. Water analysis takes about 5 minutes, is a FREE service, and can prevent future headaches. Please take advantage of it. Free water sample bottles are also available at the store for your convenience. The pool should then be given a heavy shock, and regular chlorination started. While the water is still cold, you will find you do not need as much chlorine as you normally would.

For: Pool Owners with GEN-R-8/AquaRite Salt Water Chlorine Generators

After the pool has been filled and allowed to circulate for AT LEAST 24 hours, turn on your salt system to get a salt reading. Push the small 'diagnostic' button next to the LCD display 5 times to show the instant salt reading in ppm and record it. This may not work if the water is too cold. Alternatively, you can have the salt levels as well as stabilizer, total alkalinity and pH tested at our store.

Use the salt reading to calculate the amount of salt required using the chart in your GEN-R-8 manual, or call the store and we will help you.

Since the pool also requires stabilizer when new water is added, the easiest way to add both salt and stabilizer, is by adding GEN-R-8 Conditioner CL. Add the recommended amount to the shallow end and break up any large clumps. Do NOT use water softener salt.

Do not run the chlorine Generator for extended periods without adjusting the salt, stabilizer, total alkalinity and pH to their proper levels. Also, the GEN-R-8 Generator will not work properly until the pool temperature is above 50oF/10oC. Therefore we recommend that you add a heavy dose of liquid or powder chlorine once the pool is running.

We also recommend that you add a litre of Shield at start up.

Winterizing Instructions

1. Bring a water sample to the store for a final test a day or two before you close the pool. If you are using a safety cover, please remind us and see the section below.

2. Shock pool and add algaecide:

50,000 to 60,000 litres, add 7.5 litres Liquid Chlorine and 1 litre 4LG.

60,000 to 90,000 litres, add 10 litres Liquid Chlorine and 1 litre MBA 60.

90,000 to 130,000 litres, add 15 litres Liquid Chlorine and 1 litre MBA 60.

The pool must be left to circulate for at least 2 hours to distribute the chemicals before winterizing the equipment to avoid liner damage.

3. CAUTION: If the water table in your area is high, please check with the store first for directions before lowering the water level. Lower the water level 16-18 inches below the coping, usually just below the return jets. CAUTION: Please respect your neighbours and any municipal or other regulations when draining your pool.

SAND FILTER: Close the skimmer line. Backwash the filter for 10 minutes then set the multiport on 'waste' until you reach the right level.

CARTRIDGE FILTER: Turn the pump off. Close the skimmer line. Roll out the discharge hose. Open the discharge valve on the filter. Remove the lock rings, eyeball and ball seats from the return fittings. There are inexpensive tools available at the store to make this easier. Temporarily install the winter plugs on the returns. Turn the pump back on until you reach the right level.

4. To empty the skimmer line, run the pump with the skimmer line open and the main drain line closed. When the pump runs dry (about 2 minutes), close skimmer line and then shut off the pump. Install the GIZZMO into the skimmer to take up ice expansion. If the skimmer is above ground level or if the main drain line connects to the skimmer and not directly to the pump, please ask our staff for alternate instructions.

5. SAND FILTER: Drain the filter by removing the cap at the bottom. Put the multiport handle in a raised position between 2 notches. Make sure that water is draining out of the filter. If the water does not drain, you will have to blow the water out of the filter. Ask our staff for instructions.

CARTRIDGE FILTER: Drain the filter by opening the discharge valve on the filter. Open the air bleed valve to allow air into the filter. When the filter is empty disconnect and roll up the discharge hose.

6. **SAND FILTER:** To blow the water out of the return lines, use a vacuum cleaner that can be set to blow or an air compressor. Attach the blower hose where the backwash hose comes out of the filter and put the multiport handle on 'Filter' with a screwdriver under the front of the handle to hold it in a raised position. Replace the plug on the bottom of the filter. The skimmer and main drain lines must be closed and the pump lid closed. -or- disconnect the return line to the pool from the filter and connect the blower to it. Remove the lock rings, eyeball and ball seats from the return fittings. There are inexpensive tools available at the store to make this easier. Plug the returns off one at a time, starting with the one from which the air blows first.

CARTRIDGE FILTER: To blow out the return lines, remove the previously installed winter plugs. Connect a vacuum cleaner that can be set to blow or an air compressor to the discharge valve on the filter. Plug the returns off one at a time, starting with the one from which the air blows first. If you have a strong blower, you can also blow out the main drain line, but this is not required on most pools.

7. Remove both plugs from the pump. If the pump is not in a shed, bring it inside or cover it loosely to protect it from the elements.

8. Remove pressure gauges, plugs and air bleed assemblies from the filter. On sand filters, leave the multiport handle on winterize to protect the gasket. For cartridge filters, remove the cartridges from the filter and bring them to the store for cleaning, or use a recommended cartridge cleaner.

9. For gas heaters, remove the winterizing plugs. On many gas heaters you will also need to disconnect the pressure switch from the siphon loop inside the heater. Please check your manual for details. For Titan heat pumps, please make sure you disconnect the unions where the pipes connect to the heat pump and let the water drain out. Blowing out the lines to the pool will NOT clear the water from this heater. You may reconnect the unions once the water has drained out.

10. For GEN-R-8 and Hayward Aquarite chlorine generators, disconnect the cell and remove any remaining water. The cell may be reconnected or brought inside for the winter. It should be cleaned using the GEN-R-8 cell cleaning kit before the pool is restarted in the spring.

11. Remove ladders and guard rails from pool. Grease the anchor bolts. Cover walk-in steps with a sheet of 3/4" or 5/8" outdoor grade plywood.

12. To install a VINYL HANGING COVER into the coping - put the corners in first, tacking them in temporarily. Work your way around the pool tacking the cover in every 10'. Once you know the cover is in the proper place install the rest of it. Place clips or wedges every 2-4 feet. The corners will need extra clips. When you are done, take a permanent marker and note landmarks such as ladders and skimmers to make installation easier next fall.

13. Please monitor the pool water level after you close it. If the pool has a slow leak it will become noticeable after the pool is closed. You may need to add water under the cover on a regular basis to keep the vinyl hanging cover from splitting as well as preventing damage to the liner, walls and concrete bottom.

14. If you are using WATER BAGS, fill the water bags no higher than 3 inches. DO NOT OVERFILL. Do NOT drag them on the concrete. Do not use concrete blocks, bricks, or rocks to hold down the cover. You may use 2x4's weighted with sandbags instead. Place the cover over the pool so that it comes off the deck, straight down the wall and flat across the pool. Put 1 inch of water on top of the cover to keep it from billowing.

15. If you are using a SAFETY COVER, it may be installed over a vinyl hanging cover or by itself. If just the safety cover is installed, we recommend that the pool not be closed before late September (and opened before mid-May) to avoid algae getting out of hand. When adding closing chemicals, add extra algaecide and raise the total alkalinity to 160ppm to allow for acid rain and snow. To install the cover, put the safety cover over the pool. Raise the posts in the middle of the safety cover anchors using the red-handled 1/4 inch Allan wrench provided. Then use the chrome bar to hook the springs over the anchors.

16. Store all chemicals in original containers with sealed lids, in a cool dry place where they will not freeze. We recommend that chemicals not be stored next to the pump motor. Store parts where you can find them next year and not in garbage bags. If a lot of water accumulates on the cover before freeze up, it is a good idea, but not required, to pump some of it off.

ABOVE GROUND POOLS need special treatment. Winterizing chemicals should be added before lowering the water and left to circulate for several hours. Lower the water level just below the skimmer. Remove the eyeball and plug off the return. Disconnect the hoses from the bottom of the skimmer and from the return(s). Do NOT plug skimmer. Drain the pump and filter. Bring the pump indoors..

The winter cover is usually secured by a cable around the pool which is tightened with a winch. Add an extra couple of inches of water on top of the cover to reduce billowing.