FM 32 10182-19 1 of 2 1

UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

SEP 10 1993

Mr. Mark E. Burt
ICI Americas, Inc.
Wilmington, DE 19897

Subject: BAQUACIL Swimming Pool Sanitizer and Aligstat
EPA Registration No. 10182-19
Your Amendment of October 14, 1992

Dear Mr. Burt:

This is in response to your amendment of above date requesting approval of a pool care guide bulletin.

The labeling referred to above, submitted in connection with registration under the Federal Insecticide, Fungicide, and Rodenticide Act, as amended, is acceptable. A stamped copy of the label is enclosed for your records.

If you have any further questions, please contact Ms. Barbara Pringle at (703) 305-6484.

Sincerely,

Ruth G. Douglas
Product Manager 32
Antimicrobial Program Branch
Registration Division (H-7504C)

CONCURRENCES							
SYMBOL	H-7504C						
SURNAME	Pringle						
DATE	8-17						

EPA Form 1320-1A (1/90) Printed on Recycled Paper OFFICIAL FILE COPY

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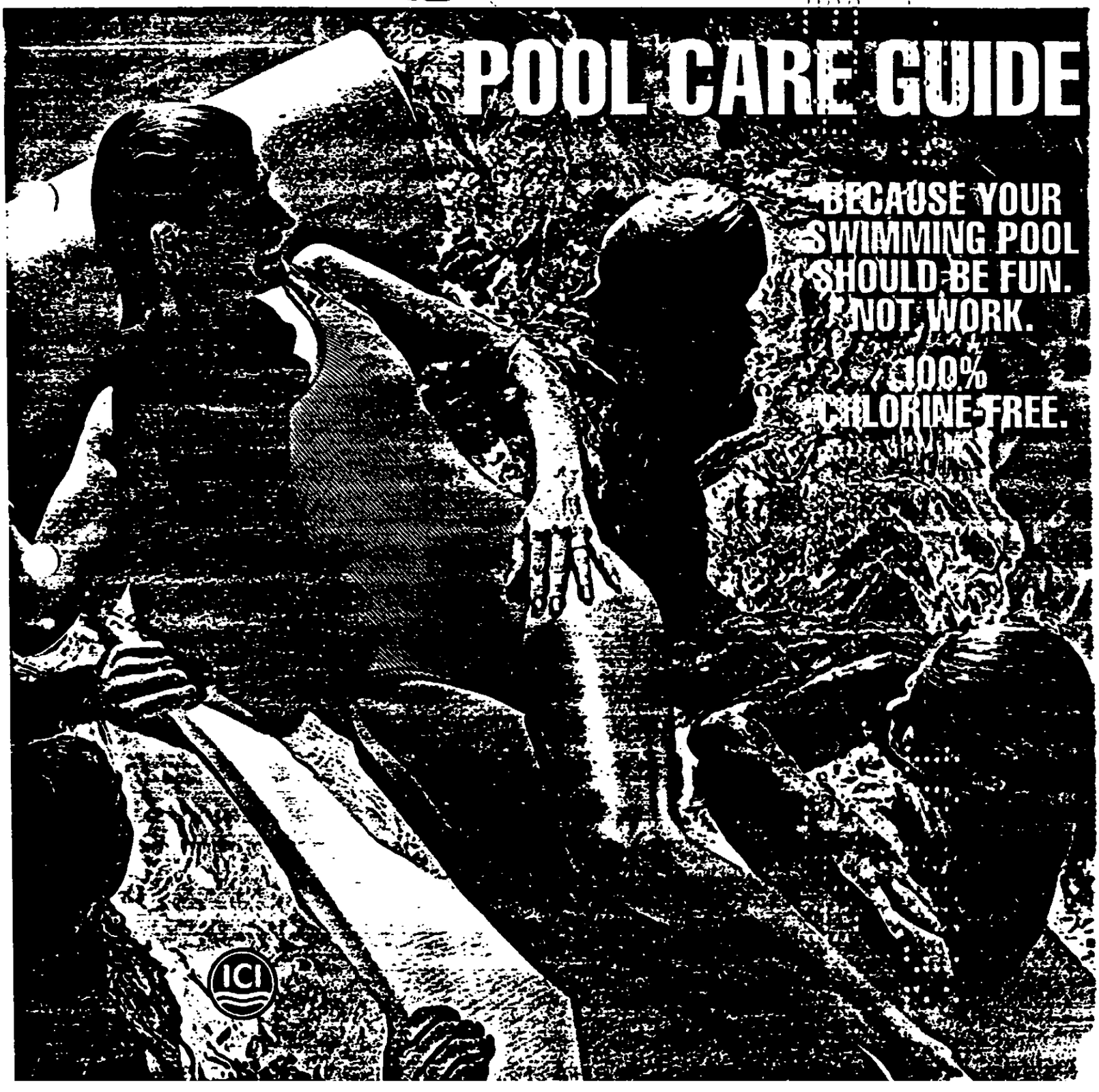
BAQUACIL®

CHLORINE-FREE SWIMMING POOL SANITIZER AND ALGISTAT



Come On In...

. . . And start enjoying all the pleasures of chlorine-free pool care. If you're converting a pool from chlorine, congratulations; you'll be amazed how much easier it is to maintain your pool with BAQUACIL® Swimming Pool Sanitizer and Algistat and its companion products. If you're starting up a new pool, just get ready to have fun.

BAQUACIL is an effective chlorine-free polymeric sanitizer. The active ingredient found in BAQUACIL was originally evaluated as a food plant sanitizer and as a topical antiseptic for humans.

BAQUACIL is effective against a wide variety of microorganisms which, in conjunction with the filter, helps to physically remove impurities from the water as it sanitizes. Because of its complex chemical structure, BAQUACIL is extremely stable. Unlike the efficacy of halogen sanitizers (chlorine, bromine), the efficacy of BAQUACIL is not affected by sunlight, temperature or pH fluctuations.

This stability allows a pool to be properly maintained for longer periods (generally two weeks) before additional BAQUACIL is required, which provides better, more consistent bacteria control and greater ease of operation.

Clear, sparkling water does not take nearly as much work with BAQUACIL as it does with chlorine. This is because the active ingredient in BAQUACIL is more stable than chlorine, so its effectiveness lasts longer.

You also won't have the bleaching of hair, fabrics, or vinyl liners usually associated with chlorine, and you're less likely to encounter skin or eye irritation.

This Pool Care Guide is full of information on starting up and maintaining your pool on BAQUACIL and its companion products. Spend a little time reading it now; you'll have a lot of time soon to enjoy your pool.

ACCEPTED
with COMMENTS
In EPA Letter Dated:
SEP 15 1993
Under the Federal Insecticide, Fungicide, and Rodenticide Act
for the registration
EPA Reg. No.
10182-19

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BAQUACIL®
CHLORINE FREE SWIMMING POOL SANITIZER AND ALGISTAT
Because your swimming pool should be fun. Not work.

Table of Contents

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BAQUACIL, BAQUA SHOCK, BAQUA PURE, BAQUA CHECK, BAQ OUT, BAQUA START, BAQUA FLOC, BAQUA CLEAN, BAQUA TEST, BAQUA BURST, BAQUACARE and BAQUA BRITE are trademarks of Imperial Chemical Industries PLC.
BAQUACIL is a product of the Pool Products Business, ICI Specialties, ICI Americas Inc.

Safety

Chemicals are necessary to control bacteria and algae and to maximize the life of your pool and its equipment. In concentrated form, however, they may be hazardous. Always handle and use with care. Refer to the product label for safety and handling information. The Pool Products Business of ICI Americas Inc. wholeheartedly endorses the safety guidelines of the National Spa and Pool Institute (NSPI). Here are a few good suggestions to follow:

- Keep all bottles of chemicals in an upright position

NOTE: BAQUA SHOCK® Swimming Pool Clarifier is a strong oxidizer. The BAQUA SHOCK container has a vented cap. Storage of BAQUA SHOCK on its side, or inverted may result in leakage or rupture. This may lead to fire upon contact with combustible material.

- In case of spills or human exposure, follow label directions.
- Keep all chemicals out of reach of children.
- Store chemicals in a cool, well ventilated area away from combustible materials. Do not store chemicals in a motor vehicle.
- Never mix concentrated chemicals together; add them separately, and always add the chemicals to the water. Never add water to chemicals.
- Keep containers closed when not in use and put caps back onto their respective containers.
- Avoid contact with skin or eyes. Wear safety goggles and rubber gloves when handling concentrated chemicals.
- In case of contact or ingestion, follow emergency advice on the label and contact your doctor or local poison control center.
- Keep concentrated chemicals off your grass and shrubbery.
- Dispose of excess product and empty containers per label instructions. Do not reuse empty containers or pour any dispensed product back into the original container.

For emergency information,
call the poison control center nearest you,
or dial
1—800—FAST—MED
(1—800—327—8633)

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Start-Up And Maintenance Information Sheet

Prepared by:_____ Date:_____

Prepared for:_____

Pool Volume (gals.):_____ Filter Type:_____

DEALER ADDRESS AND PHONE:

_____

PRELIMINARY STEPS

(Check steps as completed):

_____ Backwash or clean filter thoroughly.

_____ Brush and vacuum pool before making any chemical addition.

_____ Make all chemical additions with the filter running.

CONVERSION STEPS

(Check steps as completed):

1. Total Alkalinity _____ ppm
(Rec. Range 80 — 150 ppm)

Add _____ lbs. of alkalinity increaser or _____ lbs. alkalinity decreaser directly to the pool, wait six hours, then proceed to the next step.

2. pH _____
(Rec. Range 7.2 — 7.8)

Add _____ lbs. of pH minus or lbs. of pH plus directly to the pool (deep end), wait 4 to 6 hours before proceeding to the next step.

3. Calcium Hardness _____ ppm.
(Rec. Range 180 — 275 ppm)

Add _____ lbs. of hardness increaser to the pool. Add 1/3 of the total amount every six hours until the total amount has been added, then proceed to the next step.

If calcium hardness is very high ask your Authorized Dealer for BAQUACIL for a recommendation.

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Start-Up And Maintenance Information Sheet (continued)

QUICK-CONVERSION TABLE		
1 gallon	=	4 quarts
1 quart	=	2 pints
1 pint	=	16 ounces
1 bottle BAQUACIL	=	1/2 gallon
	=	4 pints
	=	64 ounces
1 bottle BAQUA CHECK 50	=	1 quart
	=	2 pints
	=	32 ounces

4a **If the pool water is clear** and algae-free but shows a free chlorine reading, add ____ bottle(s) of BAQUA START® chlorine neutralizer and allow the water to circulate overnight. If the free chlorine reading is zero, proceed to Step 5. If the free chlorine is still present, repeat Step 4a.

OR

4b **If the pool water is hazy,** add one(1) gallon BAQUA SHOCK swimming pool clarifier per 10,000 gallons of pool water. Filter for 8 to 12 hours, and proceed to the next step.

5 Copper ____ ppm, Iron ____ ppm. (Rec. Range: None)

Add ____ bottle(s) of BAQ OUT® chelating agent per 10,000 gallons of pool water with the filter running, wait eight hours, then proceed to Step 6.

NOTE: BAQ OUT must be used in all unpainted plaster pools prior to addition of BAQUACIL regardless of metals analysis results.

6 Add ____ pint(s) of BAQUACIL to the pool, then proceed to the next step.

7 Add ____ oz. of BAQUA CHECK® 50 concentrated algicide to the pool.

WEEKLY MAINTENANCE

BAQUACIL and pH should be checked weekly. If the pH is not in the 7.2 — 7.8 range, consult your pool professional for advice.

1 BAQUACIL
(Rec. Range 30 — 50 ppm)

If the level is 30 ppm, add ____ pts. of BAQUACIL

2 Add ____ oz. of BAQUA CHECK 50.

MONTHLY MAINTENANCE

1 Add ____ gallon(s) of BAQUA SHOCK.

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General Pool Care

BAQUACIL makes pool care easy; but even so, there are certain basics in the operation of any pool. Generally, these are housekeeping, water balance, and sanitization. Lack of attention to any of these can result in a problem. Some general rules are:

I. Housekeeping

- Vacuum and brush the pool weekly.
- Run filter at least 8—12 hours per day during the season; longer during periods of heavy use or after severe storms.
- Clean the filter twice a season with BAQUA CLEAN® filter cleaner to keep it operating at maximum efficiency.

II. Water Balance

- Take a pool water sample to your Authorized Dealer for BAQUACIL once a month during the season for a complete analysis or after significant make-up water is added.
- When making chemical additions, put them in around the pool inlets or distribute them around the water's edge with the filter running.
- NEVER mix chemicals.
- Add only the amount of chemical specified.
- Check pH weekly.

III. Sanitization / Oxidation

- Check the level of BAQUACIL once a week.
- If the level of BAQUACIL is found to be at or below 30 ppm, bring the level back to 50 ppm.
- Add a maintenance dose of BAQUA CHECK 50 algicide weekly.
- Add BAQUA SHOCK clarifier monthly.

IMPORTANT: When handling any chemical product, follow label instructions carefully. Remember, not all pool care products are compatible with BAQUACIL. Consult the "Use With Other Chemicals" section of this guide (p. 18) or ask your Authorized Dealer for BAQUACIL before adding supplemental chemicals.

To Calculate Pool Volume

You can determine the dimensions of your pool and estimate its volume from Table I, II or III below.

Then use this figure to obtain the correct dosages of BAQUACIL for your pool.

I. CIRCULAR POOLS (Dimensions in Feet)

Diameter		Average Depth	Approximate Gallons
12	x	3	2,500
15	x	4	5,300
18	x	4	7,500
24	x	4	14,000
27	x	4	17,000
28	x	4	18,500

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To Calculate Pool Volume (continued)

II. RECTANGULAR POOLS (Dimensions in Feet)

Length		Width		Average Depth	Approximate Gallons
24	x	12	x	4	8,600
30	x	15	x	4	13,500
30	x	15	x	5	17,000
34	x	17	x	5	21,500
32	x	16	x	6	23,000
40	x	20	x	5	30,000
40	x	30	x	5	45,000
50	x	30	x	5	56,000

III. IF YOU CAN'T DETERMINE THE VOLUME FROM THE EXAMPLES GIVEN ABOVE, USE THE FOLLOWING EQUATIONS

Pool Shape	Equation	Equals
Rectangular	Length x Width x Average Depth x 7.5	Total Gallons
Round	Diameter x Diameter x Average Depth x 5.9	Total Gallons
Oval	Maximum Length x Maximum Width x Average Depth x 5.9	Total Gallons
Free-Form	Surface in Square Feet x Average Depth x 7.5	Total Gallons

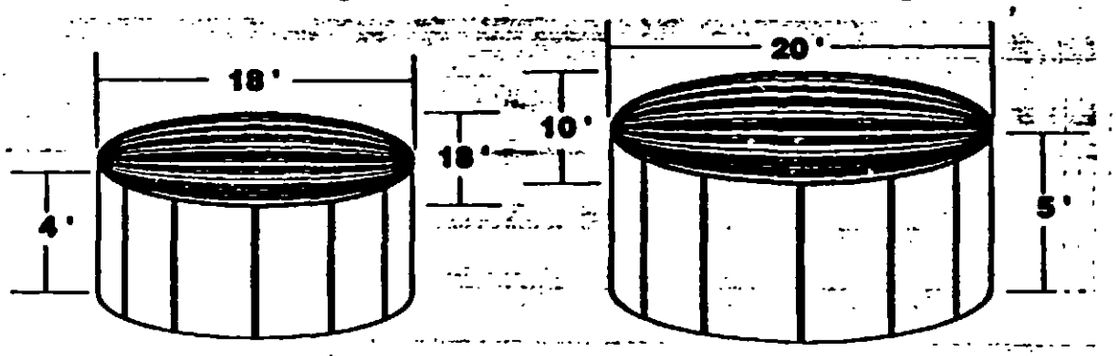
Example Calculations

An 18 – foot diameter round pool, 4 feet deep:

18 x 18 x 4 x 5.9 = 7646 gallons

An oval pool, with a long dimension of 20 feet, a narrow dimension of 10 feet, and a depth of 5 feet:

20 x 10 x 5 x 5.9 = 5900 gallons



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Starting Your Pool On BAQUACIL

Whether you have a new pool, freshly filled pool, or are currently using chlorine or bromine, starting your pool on BAQUACIL will be easy!

Just follow these simple steps:

Prepare the Pool

1. Calculate the volume of your pool so you can make accurate chemical additions. To calculate pool volume from your pool's dimensions, use the tables on pages 4-5.

2. Take a sample of your pool water to your Authorized Dealer for BAQUACIL. The Authorized Dealer will complete a full analysis of your pool water. Please follow the recommendation of your dealer to correctly balance your pool water. (In addition, take a sample of your source water and have it analyzed by your dealer for future reference.)

3. Brush and vacuum your pool.

4. Clean the filter with BAQUA CLEAN filter cleaner. (Note: Chemical cleaning is only necessary if the filter has not been cleaned in the past 6 months).

Convert the Pool to BAQUACIL

1. Remove chlorine or bromine source (pill, stick, tablets, etc.) and make no further additions of these products. Discontinue the feeder if practical.

   If your dealer finds that your pool water has a high cyanuric acid level, (>70 ppm), dilute the pool with fresh water.

2. Neutralize the chlorine or bromine.

   a. If the water is clear, add 1 bottle (5 oz.) of BAQUA START per 10,000 gallons of pool water. **Allow the water to circulate for 8 hours.** Verify that the free chlorine level in the pool is 0. [To check the free chlorine level, use a "DPD" type testing kit (using a No. 1 tablet)].

   OR

   b. If algae or haze is present, add 1 bottle (1 gal) of BAQUA SHOCK clarifier (instead of BAQUA START) per 10,000 gallons of pool water. **Allow the water to circulate for 8 hours.** Verify that the free chlorine level in the pool is 0. [To check the free chlorine level, use a "DPD" type testing kit (using a No. 1 tablet)].

3. If your dealer finds that your pool water contains metals, add BAQ OUT chelating agent at the rate of 1 bottle (1 1/4 lbs.) per 10,000 gallons for every 2 ppm of metals present. **Allow the water to circulate for 8 hours.**

HELPFUL HINT: If it is necessary to chemically clean *and* degrease a diatomaceous earth (DE) or cartridge filter, the following procedure applies:

1. Soak as per label directions using BAQUA CLEAN.
2. Rinse thoroughly.
3. Degrease per dealer recommendations.
4. Rinse and reinstall.

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Starting Your Pool On BAQUACIL (continued)

When starting a plaster pool on BAQUACIL:

It is important to eliminate potentially damaging trace metals from the pool water. Use BAQ OUT chelating agent after the chlorine is neutralized and before you add BAQUACIL to the pool. **All plaster pools must be treated with BAQ OUT Chelating Agent regardless of metal analysis results.** Plaster pools are particularly susceptible to scale build-up and metal staining on the surface as a result of continued exposure to improperly balanced water (See pages 14–15). The scale may appear as rough patches on the plaster surface and may vary in color. If you see existing metal stain discoloration, do not convert to BAQUACIL unless the pool surface is properly treated (acid washing, sand blasting, etc.) to remove the accumulated deposits. For further assistance, see your Authorized Dealer for BAQUACIL.

NOTE: Since trace metals are commonly found in water sources, add BAQ OUT at the rate of 1 bottle (1 1/4 lbs.) per 10,000 gallons whenever significant amounts of make-up water are added to the pool.

4. Add the start-up dose of BAQUACIL (See the Start-up Dosage Table below).

5. Add the start-up dose of BAQUA CHECK 50 algicide. (See the Start-up Dosage Table below).

6. Allow the pool to filter continuously for 24-48 hours.

7. Use the ICI Test Kit for BAQUACIL (follow the instructions on page 12-13) to check the BAQUACIL and pH levels, making adjustments as necessary.

NOTE: After the addition of BAQUACIL, the water may become hazy. This is because BAQUACIL is removing pre-existing impurities from the water. This haze should clear within 24–48 hours with continuous filtration.

V. START-UP DOSAGES

	Gallons								
	5,000	10,000	15,000	20,000	25,000	30,000	35,000	40,000	50,000
BAQUA START swimming pool chlorine neutralizer	2 1/2 oz.	5 oz.	7 1/2 oz.	10 oz.	12 1/2 oz.	15 oz.	17 1/2 oz.	20 oz.	25 oz.
BAQUACIL swimming pool sanitizer and algistat	2 pints	4 pints	6 pints	8 pints	10 pints	12 pints	14 pints	16 pints	20 pints
BAQUA CHECK 50 concentrated algicide	2 1/2 oz.	5 oz.	7 1/2 oz.	10 1/2 oz.	13 oz.	15 1/2 oz.	18 oz.	21 oz.	26 oz.

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Starting Your Pool On BAQUACIL (Continued)

BAQUACIL is a unique swimming pool sanitizer and is not compatible with some of the chemicals you may have used in the past. See "Use With Other Chemicals" section (p. 18) before adding any additional chemicals to the pool.

DO NOT USE BAQUACIL in unpainted plaster pools previously exposed to metals, since this may intensify pre-existing staining.

DO NOT USE BAQUACIL in free-standing spas/hot tubs.

Summary

1. Prepare the pool.
2. Remove chlorine source.
3. Add BAQUA START or BAQUA SHOCK.
4. Add BAQ OUT.
5. Add BAQUACIL.
6. Add BAQUA CHECK 50.

Weekly Routine Pool Care

You will be delighted with this system that does not make you work with chemicals every day.

Once a week, test your pool water with your Test Kit for BAQUACIL to ensure that the level of BAQUACIL and pH are within acceptable ranges. Also, add a maintenance dose of BAQUA CHECK 50 algicide.

Remember that BAQUACIL gives extended periods of more stable bacteria control regardless of water temperature. BAQUACIL will not be dissipated by strong sunlight. The level of BAQUACIL should be maintained between 30 and 50 ppm. When the level is 30 ppm or less, add BAQUACIL as necessary to bring the level up to 50 ppm (see Top-Up Dosage Table on page 9). The level should never be allowed to fall below 30 ppm since algae and bacteria may not be adequately controlled.

Frequency of top-up doses varies from pool to pool. Usually it is necessary to add BAQUACIL only once every 10 to 14 days. With BAQUACIL you'll have more time to enjoy your pool than with most other swimming pool sanitizers.

BAQUA CHECK 50 algicide should be added weekly to help prevent algae growth. BAQUACIL and BAQUA CHECK 50 complement each other for maximum protection. Algae can ruin your pool's appearance, make pool walls slippery and unsafe, and clog your filter. Solving algae problems is more costly and time consuming than preventing them.

WEEKLY SUMMARY

1. Test the level of BAQUACIL and top-up to 50 ppm if level is at or below 30 ppm.
2. Test pH, and adjust if not in the 7.2—7.8 range.
3. Add maintenance dose of BAQUA CHECK 50 (see Maintenance Dosage Table VII).
4. Perform necessary housekeeping.
5. Check filter pressure. If high, backwash or clean according to the manufacturer's recommendations.

NOTE: If chlorine is accidentally added to your pool, consult your Authorized Dealer for BAQUACIL.

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Monthly Routine Pool Care

Once a month, add BAQUA SHOCK swimming pool clarifier; this treatment is necessary to help maintain the sparkle of your pool. The acculumation of swimmer wastes such as perspiration, urine, and cosmetic products can cause eye and skin irritation and give algae plenty of food. Adding BAQUA SHOCK together with adequate filtration will take care of these undesirable waste materials, keeping your pool beautifully clear and sparkling.

BAQUA SHOCK should be added by carefully pouring the liquid directly into the pool near the filter return with the filter running. Allow BAQUA SHOCK to disperse throughout the pool for several minutes before swimming. Remember to follow the important safety instructions on the container. Rinse and properly dispose of the container immediately after use.

MONTHLY SUMMARY

1. Follow normal weekly care procedures.
2. Carefully add the appropriate dose of BAQUA SHOCK.

VI. TOP-UP DOSAGE RATES FOR BAQUACIL

Pool (Gallons)	If Level is 40 ppm	If Level is 35 ppm	If Level is 30 ppm
5,000	1/2 pint	3/4 pint	1 pint
10,000	3/4 pint	1 1/4 pints	1 3/4 pints
15,000	1 1/4 pints	2 pints	2 1/2 pints
20,000	1 3/4 pints	2 1/2 pints	3 1/4 pints
25,000	2 pints	3 pints	4 pints
30,000	2 1/2 pints	3 3/4 pints	5 pints
35,000	2 3/4 pints	4 1/4 pints	5 3/4 pints
40,000	3 1/4 pints	5 pints	6 1/2 pints
50,000	4 pints	6 pints	8 pints

VII. MAINTENANCE DOSAGE RATES

Pool Size (Gallons)	Weekly Dosage BAQUA CHECK 50	Monthly Dosage BAQUA SHOCK
5,000	1/2 oz.	1/2 gal.
7,500	1 oz.	3/4 gal.
10,000	1 1/4 oz.	1 gal.
12,500	1 1/2 oz.	1 1/4 gal.
15,000	1 3/4 oz.	1 1/2 gal.
17,500	2 1/4 oz.	1 3/4 gal.
20,000	2 1/2 oz.	2 gal.
22,500	2 3/4 oz.	2 1/4 gal.
25,000	3 oz.	2 1/2 gal.
27,500	3 1/2 oz.	2 3/4 gal.
30,000	3 3/4 oz.	3 gal.
32,500	4 1/4 oz.	3 1/4 gal.
35,000	4 1/2 oz.	3 1/2 gal.
37,500	4 3/4 oz.	3 3/4 gal.
40,000	5 oz.	4 gal.
42,500	5 1/4 oz.	4 1/4 gal.
45,000	5 3/4 oz.	4 1/2 gal.
47,500	6 oz.	4 3/4 gal.
50,000	6 1/4 oz.	5 gal.

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System For Using BAQUACIL

STEP BY STEP

1. Test the level of BAQUACIL weekly. Maintain the level between 30—50 ppm.
2. Test pH, and adjust if not in the 7.2—7.8 range.
3. Add a Maintenance dose of BAQUA CHECK 50 weekly.
4. Once a month, add a maintenance dose of BAQUA SHOCK.
5. Clean filter twice per season with BAQUA CLEAN filter cleaner.

IV. THE SYSTEM FOR USING BAQUACIL AND ITS COMPANION CHEMICALS

	Start-Up Conversion	Seasonal Routine	Winterizing	Spring Opening
BAQUA START chlorine neutralizer	Dose pool to eliminate chlorine (1)			
BAQUACIL swimming pool sanitizer and algistat	Add a start-up dose (50 ppm)	Test Weekly; top-up to 50 ppm when the level falls to 30 ppm or below	Top-up to 50 ppm before closing	Top-up to 50 ppm (if necessary)
BAQUA CHECK 50 concentrated algicide	Add start-up dose	Add a maintenance dose weekly	Add a final maintenance dose	Add a maintenance dose
BAQUA SHOCK swimming pool clarifier	(1)	Add a maintenance dose monthly	Add a final maintenance dose	Add a maintenance dose

(1) If haze is present at the time of conversion, use BAQUA SHOCK instead of BAQUA START. Add one gallon of BAQUA SHOCK per 10,000 gallons of pool water prior to adding BAQUACIL and BAQUA CHECK 50.

Dosages of BAQUACIL and its companion chemicals are found in Tables V-VII on pages 7 and 9.

NOTE: After completing the chemical additions of spring opening, resume a seasonal routine.

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Winterizing Your Pool

If you live in an area where the climate does not allow you to use your pool during the winter months, you will need to protect your pool by closing it. Always follow your manufacturer's instructions for winterization of your pool and equipment. The following steps may help to simplify the job.

PREPARE THE POOL

1 **Check Your Water Balance.** Take a sample of water to your Authorized Dealer for BAQUACIL for analysis. Follow the recommendations for any adjustments to the water's chemistry that may be needed.

2 **Perform Any Necessary Housekeeping.** Brush and vacuum your pool thoroughly. Clean around the tile line and the skimmer box.

CLOSE THE POOL

1 **Sanitize and Clarify Your Pool.** Winterizing your pool with BAQUACIL is a simple three-step process:
- Add a maintenance dose of BAQUA SHOCK.
- Top-up BAQUACIL to 50 ppm.
- Add a maintenance dose of BAQUA CHECK 50.
- Allow the filter to run for several hours after chemical additions to allow for good mixing.

2 **Backwash and Clean The Filter with BAQUA CLEAN.** The filter should be cleaned with BAQUA CLEAN Filter Cleaner before it is stored. Consult your Authorized Dealer for BAQUACIL for the details on cleaning your filter. Never store a dirty filter, since deposits may harden over the winter, leaving you a tough job in the spring.

3 **Follow the Manufacturer's Recommendations For Winterizing Pool Filter and Equipment In Your Area.** Clean the skimmer basket and the pump's hair/lint strainer basket. If the pool is to be completely shut down, store the baskets.

4 **Cover the Pool.** Use a well-fitted solid cover that's designed for your pool. This keeps the water free of leaves and airborne debris. If you use a mesh cover or decide not to cover the pool, about once a month check the level of BAQUACIL. If the level is below 30 ppm, add a top-up dose to bring the level back to 50 ppm.

In areas with mild winters, you can leave the pool open. As pool usage declines in the cooler weather, reduce regular maintenance. Just check the level of BAQUACIL and pH every third or fourth week. Run the filter system several hours a day, and remove leaves and debris from the pool.

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Spring Opening

STEP BY STEP

1. **Opening.** Attend to the mechanical details. Uncover the pool, and get the filtration system operational.

2. **Housekeeping.** Vacuum the pool thoroughly to remove any debris that has gotten into the pool over the winter.

3. **Filtration.** Brush the pool and filter continuously. NOTE: If the filter was not cleaned prior to closing, use BAQUA CLEAN as per label recommendation.

4. **Water Balance.** Analyze the pool water, and make any necessary water balance adjustment(s). NOTE: Take a sample of your pool water to your Authorized Dealer for BAQUACIL for analysis to determine if metals were introduced by the addition of the makeup water. If metals are detected, treat the pool with BAQ OUT. FOR UNPAINTED PLASTER POOLS, ADD A FULL DOSE OF BAQ OUT AT SPRING START-UP regardless of metal test reading.

5. **Sanitize and Clarify The Pool.** Spring start-up is a simple three-step process:
   - Add a maintenance dose of BAQUA SHOCK.
   - Top-up BAQUACIL to 50 ppm.
   - Add a maintenance dose of BAQUA CHECK 50.

6. **Resume normal weekly/monthly routine.** Remember to check the water balance once per month during the season by your Authorized Dealer for BAQUACIL.

Test Kit for BAQUACIL

Test kits designed for chlorinating sanitizers will not work for BAQUACIL. A specially designed easy-to-use Test Kit for BAQUACIL is available through your Authorized Dealer.

It is important to keep the test kit tubes clean and free of stains. Dirty cells give inaccurate test readings that can lead to costly and wasteful use or inadequate levels of chemicals. Use the ICI test tube cleaning solution and the brush enclosed with the kit to gently scrub the tubes clean. Rinse the tubes thoroughly to remove all traces of detergent.

Replacement tubes and test chemicals are available from your Authorized Dealer for BAQUACIL.

IMPORTANT: Use only specifically formulated BAQUA-TEST™ II indicator solution and pH reagents from ICI with this test kit. Replace all test chemicals annually. Store test kit out of direct sunlight in a cool dry place.

SAFETY WARNING: Keep all testing chemicals out of the reach of children. Avoid skin and eye contact. Do not ingest.

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Using The Test Kit

TEST PROCEDURE FOR BAQUACIL.

The level of BAQUACIL should be maintained between 30 and 50 ppm. When the level of BAQUACIL is 30 ppm or less, add enough BAQUACIL to bring the level up to 50 ppm. The pool's level of BAQUACIL should NEVER be allowed to drop below 30 ppm.

1. Fill the unmarked tube to the black line with pool water, cap, and place it in Chamber #1 of the test kit viewer.
2. Fill the tube marked "BAQ" to the black line with pool water. Shake out any excess water until the proper level is reached.
3. Add six drops of BAQUA TEST II indicator solution to the tube marked "BAQ", cap, and invert several times to develop the color.
4. Place the tube marked "BAQ" into Chamber #2 of the test kit viewer.
5. Hold the kit at arm's length (preferably out of direct sunlight) above the horizon. Look through the large windows in the test kit viewer; rotate the color wheel until a match is obtained between colors in both windows.
6. When the color match is obtained, read the BAQUACIL concentration (in ppm) through the small window.
7. If the level of BAQUACIL is at or below 30 ppm, add sufficient BAQUACIL to bring the level to 50 ppm.

TEST PROCEDURE FOR pH.

Check pH level weekly during the swimming season. Maintain pH within the range of 7.2 — 7.8.

1. Fill the unmarked tube to the black line with pool water, cap, and place it in Chamber #1 of the test kit viewer.
2. Fill the tube marked "pH" to the black line with pool water. Shake out any excess water until the proper level is reached.
3. Add six drops of pH indicator solution to the tube marked "pH," cap, and invert several times to develop color.
4. Place the tube marked "pH" into Chamber #2 of the test kit viewer.
5. Hold the kit at arm's length (preferably out of direct sunlight) above the horizon. Look through the large windows in the test kit viewer, rotate the color wheel until a match is obtained between the colors in both windows.
6. When the color match is obtained, read the pH value through the small window.
7. If a pH adjustment is necessary, use BAQUACARE™ pH balance products per label instructions.

Helpful Hint: Be certain to hold reagent bottles directly upside down to ensure uniform drops.

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Maintain Your Water In Good Condition

WATER BALANCE

With BAQUACIL, as with any pool sanitizer, "balanced" water is critical to bather comfort and to successful pool maintenance.

Improperly balanced water limits maximum enjoyment of your pool. To be in balance, pool water should meet the following criteria:

- **pH: 7.2—7.8**
- **Metals: none**
- **Total Alkalinity: 80—150 ppm**
- **Calcium Hardness:**
  180—250 ppm (vinyl pools)
  200—275 ppm (plaster pools)
- **Total Dissolved Solids: less than 1,500 ppm.**

Consult your Authorized Dealer for BAQUACIL regarding the appropriate BAQUACARE product for adjusting these elements.

pH CONTROL

The pH is a measure of the acidity or alkalinity of the water and is measured on a scale ranging from 0 to 14.

At a pH of 7.0, the water is neutral. A reading above pH 7.0 means that the water is alkaline. A reading below pH 7.0 means the water is acidic.

During the swimming season, check the pH level weekly and after a heavy rain with the Test Kit for BAQUACIL. Adjustments should be made to keep the pH within 7.2 — 7.8. Follow the precautions on the labels of BAQUACARE pool products and other pH adjustment products.

If the pH rises above 7.8, scale can develop, particularly in hard-water areas. If the pH drops below 7.2, the pool water becomes corrosive. Skin and eye irritation may also occur if pH is outside the preferred range.

TOTAL ALKALINITY CONTROL

Maintaining alkalinity in the proper range improves bather comfort and facilitates pH control.

Low total alkalinity can lead to pool corrosion and, more important, cause "pH bounce" (large changes in pH after additions of acid or alkali). High alkalinity causes pH to drift upward. The ideal total alkalinity content is 80 to 150 ppm as measured by a suitable kit or by your Authorized Dealer for BAQUACIL.

CALCIUM HARDNESS CONTROL

Calcium hardness also affects pool water quality. Low calcium hardness promotes pool corrosion. High calcium hardness can cause cloudiness and scaling. The ideal calcium hardness content is 180 to 275 ppm as measured by a suitable test kit.

If calcium hardness is very high (greater than 400 ppm), remedial action is advised. Consult your Authorized Dealer for BAQUACIL for a recommendation.

METALS

Metals can be present in pool water in a dissolved state as a result of source water contamination or erosion of metal fixtures or heater coils by improperly maintained pH and total alkalinity levels.

Free metals in pool water can cause staining of the pool surface and inhibit the performance of sanitizers. The correct level of free metals is zero ppm.

The presence of free metals can be determined by your Authorized Dealer for BAQUACIL and can be rendered harmless by the correct use of BAQ OUT chelating agent.

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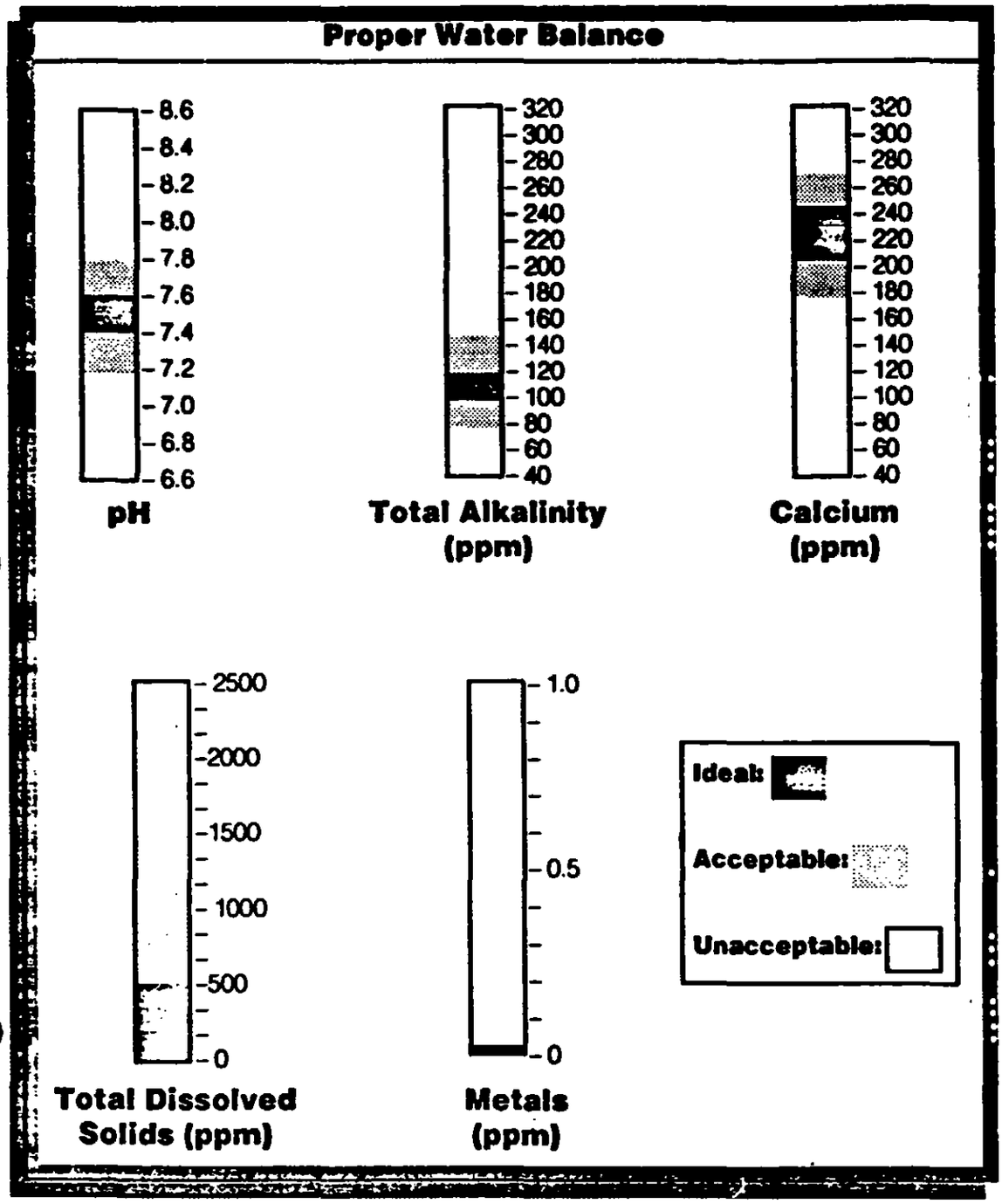
Maintain Your Water In Good Condition (continued)



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Problem-Solving

While BAQUACIL gives you a sparkling clear pool with minimum effort, problems can occasionally occur. Should a problem develop, correction procedures may not be the same as for a chlorine-treated pool. If you have any questions on the proper treatment, consult your Authorized Dealer for BAQUACIL.

ALGAE

BAQUACIL, in addition to its effectiveness against bacteria, will give good algae control. It is not, however, a harsh oxidizing chemical and cannot be used to "shock" a pool.

If visible algae develop in your pool you must act quickly as algae growth is rapid. Use your Test Kit for BAQUACIL to determine the level of BAQUACIL. Add enough BAQUACIL to bring the level to 50 ppm. Next add maintenance doses of BAQUA CHECK 50 algicide and BAQUA SHOCK clarifier (consult Table VII Maintenance Dosage Rates on page 9). This combination treatment kills and oxidizes the algae and quickly returns your pool to its clear, sparkling condition as long as your filtration system is operating properly.

SOLVING ALGAE PROBLEMS:

1. Check level of BAQUACIL and top-up to 50 ppm.
2. Add correct dose of BAQUA CHECK 50.
3. Add correct dose of BAQUA SHOCK.
4. Brush pool walls and floor, and filter continuously until the pool is free of visible algae.
5. If these steps fail, contact your Authorized Dealer for BAQUACIL regarding alternate algicide treatments such as BAQUACIDE™ 795 supplemental algicide. Remember, not all algicides are compatible with BAQUACIL.

SAFETY REMINDER

NEVER mix concentrated chemical products together; always add them to the pool separately. You should brush the affected areas of the pool, then filter continuously for 24 hours. At the end of this 24-hour period, vacuum your pool to remove algae debris and clean your filter if necessary. If the filter isn't clean and working properly or, if it isn't running long enough every day, you will not get the maximum effectiveness from your pool chemicals.

FOAM

The most common source of excessive foam is air bubbles from a leak in the filtration system. If you have checked for and eliminated any leaks, determine the level of BAQUACIL with your test kit. If it is too high, or if an almond-like taste is present (indicating excess BAQUA CHECK 50), reduce the levels of dilution with fresh water. You can use an anti-foaming agent such as BAQUA BURST™ pool and spa antifoam if your Authorized Dealer for BAQUACIL recommends it.

WATERLINE RING

Organic debris tends to accumulate around the waterline of all pools. Due to the flocculating nature of BAQUACIL, you may notice a slightly heavier deposit of the material, especially in the first few weeks after converting to BAQUACIL. This ring can be easily cleaned by using BAQUA BRITE™ pool surface cleaner.

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HAZY WATER

One of the major causes of hazy pool water is lack of adequate filtration. If the filter is dirty, it is not operating at peak efficiency. Backwashing alone will not thoroughly clean the filter. Cleaning the filter two times per season with BAQUA CLEAN is essential to keep the filter operating properly.

If a haze develops in your pool treated with BAQUACIL, follow this treatment procedure:

- Top-up the level of BAQUACIL to 50 ppm.
- Make sure that your filter is clean and operating properly. Run it continuously for 24 — 48 hours. If the water's clarity does not improve and no increase in filter back pressure is noted, the addition of a filter aid (i.e. BAQUA FLOC™ flocculant) may be necessary. BAQUA FLOC flocculant may also be used to coagulate the fine particles which are causing the haze.

CLEARING UP HAZY WATER:

1. Clean filter with BAQUA CLEAN filter cleaner.
2. Top–up the level of BAQUACIL to 50 ppm.
3. Operate filtration system continuously.
4. Use BAQUA FLOC as a filter aid and/or pool flocculant.

PREVENTING HAZY WATER:

1. Run your filter 8 — 12 hours per day.
2. Use BAQUA CLEAN filter cleaner two times a season to keep the filter operating properly.
3. Have your water analyzed by your Authorized Dealer for BAQUACIL once per month during the season to maintain proper water balance.
4. Routine housekeeping.

EYE IRRITATION

BAQUACIL is much less likely to cause irritation than chlorinating chemicals. But eye irritation, like an allergy, is a very personal thing. If there are several complaints, check pH, water balance, and level of BAQUACIL. If you find the level of BAQUACIL too high, dilute with wa...

TASTE

An excessive level of BAQUACIL will impart a dry, bitter taste to the pool water, and too much BAQUA CHECK 50 will result in an almond-like taste and smell. If necessary, reduce the concentration by dilution.

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Use With Other Chemicals

Never use chemicals in your pool that are incompatible with BAQUACIL and its system components. Pay close attention to the lists below, and when a question arises about a product not listed, consult your Authorized Dealer for BAQUACIL.

INCOMPATIBILITIES

BAQUACIL **is not** compatible with:

- Any sanitizers, shock treatments, or algicides based on chlorinating chemicals — calcium, lithium, sodium hypochlorites, chlorinated isocyanurates, salt chlorinators, or with bromine or iodine compounds.
- Ionic sterilizers; e.g., copper or silver ionizers.
- Copper-based and "polymeric quat" algicides.
- Anionic detergents (most household detergents and some tile line cleaners).
- Water-softening chemicals; e.g., sodium hexametaphosphate, "Calgon," tripolyphosphates, "Hydroquest" 100 sequestering compound.
- Persulfate oxidants; e.g., "Oxy-Brite," "Oxy-Shock," "Free Shock," etc.
- Ozone generation devices.

COMPATIBILITIES

BAQUACIL is compatible with:

- The BAQUACARE line of water balance chemicals.
- BAQUA CHECK 50 concentrated algicide.
- BAQUA SHOCK swimming pool clarifier.
- BAQUA FLOC swimming pool flocculant.
- BAQUA CLEAN filter cleaner.
- BAQ OUT chelating agent for mineral control.
- BAQUA BURST pool and spa antifoam.
- BAQUA PURE® activated carbon.
- BAQUA BRITE pool surface cleaner.
- Simazine-based algicides.

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Product Descriptions

BAQUACIL	swimming pool sanitizer and algistat.	A highly effective polymeric swimming pool sanitizer and algistat that contains no chlorine and is highly stable in use.
BAQUA SHOCK	swimming pool clarifier.	The clarifier/oxidant. Compatible with BAQUACIL. Contains 27% hydrogen peroxide.
BAQUA CHECK 50	concentrated algicide.	Supplemental algicide. 50% blend of n-alkyl dimethyl benzyl ammonium chloride, n-dialkyl methyl benzyl ammonium chloride
BAQ OUT	chelating agent.	Sequestering agent for metals.
BAQUA START	chlorine neutralizer.	Neutralizer for chlorine.
BAQUA CLEAN	swimming pool filter cleaner.	Acid-based cleaner for cartridge, diatomaceous earth, and sand filters.
BAQUA FLOC	swimming pool flocculant.	Clarifier for the elimination of haze.
BAQUA PURE	activated carbon.	Activated carbon for the elimination from pool water of unwanted colors, odors, or tastes.
BAQUA BURST	defoamer.	Silicone-based antifoam.
BAQUACARE	total alkalinity increaser.	High-purity, low-dusting product used to raise pool and spa alkalinity.
BAQUACARE	pH decreaser.	High-purity, highly active dry acid product used to lower pool and spa pH.
BAQUACARE	pH increaser.	High-purity, highly active dry alkaline product used to raise pool and spa pH.
BAQUACARE	calcium hardness increaser.	High-purity, low-dusting product used to raise pool and spa calcium hardness.
BAQUA BRITE	pool surface cleaner.	Concentrated gel for improved cleaning of dirt, scale, oil, and light stains at the pool tile line.
BAQUACIDE 795	algicide	Swimming pool algicide supplement effective against green, black, blue-green, and mustard algae. Keeps water free of algae and slime.

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Glossary

ALGAE. Microscopic forms of plant life (some free-floating, others clinging). Some strains more resistant to chemical treatment than others. Discolor water and pool surfaces.

ALGICIDES. Chemicals that control or prevent algae.

BACTERIA. Single cell organisms that contaminate your pool. Can be introduced from the environment and by swimmers.

BALANCED WATER. The correct ratio of mineral content and pH level that prevents pool water from being either corrosive or scale-forming.

CALCIUM HARDNESS. The amount of dissolved calcium in pool water. High hardness levels cause cloudy water and scale formation. Low levels harm the pool and equipment.

CARTRIDGE FILTER. A filter for pool water that uses paper or fabric-like cartridges to remove suspended matter.

CHELATING AGENT (Sequestering Agent). A compound which holds dissolved metal ions in solution by chemically binding them in a stable ring structure.

CHLORINE. An available form of sanitizing agent that controls bacteria in swimming pools.

D.E. (DIATOMACEOUS EARTH) FILTER. A filter for pool water, using diatomaceous earth which consists of tiny prehistoric diatom skeletons. They are very porous and provide an excellent filter media.

DPD#1. Reagent used in the determination of free available chlorine.

FLOCCULANT. A chemical which causes suspended matter in the pool to coagulate and fall to the bottom of the pool.

pH. A measurement of acidity and alkalinity. Proper ranges in a pool using BAQUACIL are 7.2 to 8.0. Below 7.0, pool water is acidic and will corrode pool equipment and damage the pool surface. Above 8.0, pool water is too alkaline -- which may result in cloudiness and scale formation. Improper pH balance also affects the germ-killing power of chlorine. The germicidal activity of BAQUACIL is not linked to pH.

PPM. The abbreviation for "parts per million." The accepted measurement of chemical concentration in swimming pool water.

REAGENT. A substance used to detect or measure chemical level.

SAND FILTER. A pool water filter that uses fine silica sand as its filter media.

SCALE. Calcium/magnesium salt deposits that can coat pool walls and clog pipes, filters, and heaters. Generally caused by high mineral content combined with a high pH.

TOTAL ALKALINITY. The amount of carbonates, bicarbonates, and hydroxides in the pool. A high total alkalinity causes pH to resist adjustment to the desired range. A low total alkalinity makes it difficult to maintain pH within the desired range.

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Water Sampling Tips

When taking a sample of pool water for analysis, the following guidelines will help assure that an accurate sampling is obtained.

1. Obtain a sample of approximately one (1) quart.
2. Draw sample from approximately eighteen (18) inches below the surface of the water, away from the skimmer.
3. Take sample in a BAQUACIL Water Sample Bottle or in a **clean, dry plastic container.**
4. Deliver sample promptly to your Authorized Dealer for BAQUACIL.

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Notes

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Calgon is a trademark of Calgon Corporation.
Hydroquest is a trademark of Hydrology Labs.
Oxy-Brite is a trademark of Great Lakes Biochemical.
Free Shock is a trademark of Thompson Hayward.
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