MONARCH®%3
MINERAL SPA SANITIZER

Keeps spa water clean and crystal clear!

For Sparkling Clear Water...

Inhibits the growth of bacteria – for brilliantly clear, odor-free spa water.

It’s Easy To Install...

Installs in seconds and lasts 4 full months.

It’s Compatible...

Compatible with all Caldera® spa models and the Monarch® ozone system.

Satisfaction Guaranteed!
INSTALLS IN SECONDS
RIGHT INTO THE FILTER
STANDPIPE.
1. Remove filter from spa.
2. Insert Monarch mineral spa sanitizer into the standpipe.
3. Replace filter.

Please refer to the operating manual for complete installation instructions.

PRECAUTIONARY STATEMENTS
Hazard to Humans and Domestic Animals.
CAUTION
In the unlikely event that a cartridge breaks, mineral media should not be ingested by humans or animals as it may cause gastrointestinal illness.
FIRST AID
If ingested, call Poison Control Center or doctor immediately for treatment advice.
STORAGE / DISPOSAL
Store out of reach of children.
Disposal: After 6 months of use discard cartridge. Do not save the cartridge for reuse. The cartridge is manufactured with mineral media made in the unlikely event a cartridge breaks, remove it and vacuum out any mineral media into the airstream.
DIRECTIONS FOR USE
It is a violation of Federal Law to use this product in a manner inconsistent with its labeling. See Owner’s Manual included for directions for use.
CHANGE THIS CARTRIDGE EVERY 4 MONTHS
Use of this cartridge for longer than 4 consecutive months will void the warranty. Discard this cartridge at the end of 4 months.

USE MONARCH MINERAL SPA SANITIZER TO:
- Inhibit the growth of bacteria
- Improve water quality
- Reduce chlorine usage when used in combination with Monarch MPS*

*Potassium peroxymonosulfate.

Sold by: Watkins Manufacturing Corp
1280 Park Center Drive
Vista, CA 92081

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**Owner's Manual**

**IMPORTANT:** Spa Owner, save this manual. Installer, leave this manual with the spa owner.

**Safety Instructions**

- Please read prior to installation.

Monarch Mineral Spa Sanitizer has been designed to sanitize spas up to 500 gallons.

<table>
<thead>
<tr>
<th>ATTENTION</th>
<th>Failure to heed the following can result in permanent injury or drowning</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>EQUIPMENT UNDER PRESSURE</strong></td>
<td>Always turn spa off prior to installing or changing Monarch Mineral Spa Sanitizer. Your spa system is operated under pressure and the pressure must be released before you begin work. Please see your spa owner's manual for further instructions.</td>
</tr>
</tbody>
</table>

| PREVENT CHILD DROWNING | Do not let anyone, especially small children, sit, step, lean, or climb on any equipment installed as part of your spa’s operational system. |

| LOW CHLORINE RECIPE | You must strictly follow the Monarch Mineral Spa Sanitizer recipe included in this manual to maintain proper water chemistry and avoid health hazards. Failure to follow these instructions can lead to sickness from bacteria and other noxious organisms. |

<table>
<thead>
<tr>
<th>CAUTION</th>
<th>PRECAUTIONARY STATEMENT</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>HAZARDS TO HUMANS AND DOMESTIC ANIMALS</strong></td>
<td></td>
</tr>
</tbody>
</table>

CAUTION: In the unlikely event that a cartridge breaks, mineral media should not be ingested by humans or animals as it may cause gastric distress.

**FIRST AID IF INGESTED** Cell poison control center or doctor immediately for treatment advice.

The Monarch Mineral Spa Sanitizer is designed only for residential portable spas.
We ask you to take the time to get familiar with this manual.

Thank you for purchasing Monarch® Mineral Spa Sanitizer. We believe the more you know, the more enjoyable your family's bathing experience will be — and the more you will reduce the time, effort and cost of maintaining your spa. Spa owners who switch from conventional chemical programs to the Monarch Mineral Spa Sanitizer spend less time maintaining their spa. Every spa has its own characteristics of water type, amount of sunlight, etc. The recipe included in this manual will help ensure good water quality for your spa. Remember, your Caldera Spas dealer can provide advice and service.

Contents

<table>
<thead>
<tr>
<th>Safety Instructions</th>
<th>1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Start-Up</td>
<td>3</td>
</tr>
<tr>
<td>Balance the Water</td>
<td>3</td>
</tr>
<tr>
<td>Install the Monarch Mineral Spa Sanitizer</td>
<td>4</td>
</tr>
<tr>
<td>Recipe</td>
<td>6</td>
</tr>
<tr>
<td>Provide Filtration/Circulation</td>
<td>8</td>
</tr>
<tr>
<td>Monarch Mineral Spa Sanitizer Replacement Intervals</td>
<td>8</td>
</tr>
<tr>
<td>Disposal</td>
<td>8</td>
</tr>
<tr>
<td>Limited Warranty</td>
<td>9</td>
</tr>
<tr>
<td>Troubleshooting</td>
<td>10</td>
</tr>
<tr>
<td>Monarch MPS Test Strips</td>
<td>12</td>
</tr>
</tbody>
</table>

Directions for Use:

It is a violation of Federal law to use this product in a manner inconsistent with its labelling.

Monarch Mineral Spa Sanitizer

Compatibility

Attention: Not to be used with product containing diguanides. If biguanide or bromide products are being used, be sure to drain and refill with fresh water when using the low chlorine recipe.
Start-Up

Before starting up a new Monarch® Mineral Spa Sanitizer, clean debris and algae out of the spa and spa equipment.

Important: Do not install Monarch Mineral Spa Sanitizer until the spa water is clean and chemically balanced.

Balance spa water before installing Monarch Mineral Spa Sanitizer:

- **pH**: 7.2-7.6
- **Calcium hardness**: 200-400 ppm
- **Total alkalinity**: 80-120 ppm
- **Total Dissolved Solids (TDS)**: 500-2000 ppm

Consult with your Caldera® Spas Dealer for specific water balance instructions.

Balance the Water

To find out if your spa water is balanced:

- Take a water sample to your dealer to be tested regularly, or
- Ask your dealer to recommend a spa test kit for water balance.

**Element: pH**

**Range**: 7.2-7.6

*If too low:* The surface of your spa can become etched. Metal parts in the pump and plumbing will corrode.

*How to fix:* Add pH increaser.

*If too high:* "Scale" forms on the surface of your spa. The water can become cloudy. Equipment can be damaged.

*How to fix:* Add pH decreaser.

**Element: Calcium Hardness**

**Range**: 200-400 ppm

*If too high:* Rough, discolored deposits ("scale") will form on the spa surface and inside spa equipment.

*How to fix:* Drain or dilute the spa water. Consult your dealer.

**Element: Total Alkalinity**

**Range**: 80-120 ppm

*If too low:* It provides no buffer so that you constantly get fluctuating pH readings, which can damage equipment and spa surfaces.

*How to fix:* Use an alkalinity increaser.

*If too high:* The water becomes cloudy or milky white.

*How to fix:* Add acid to bring alkalinity down.
Install Monarch® Mineral Spa Sanitizer

1. Drain and refill your spa. Balance water per spa manufacturer guidelines.

2. Install the Monarch Mineral Spa Sanitizer after water is balanced. Refer to Assembly and Installation Diagrams for instructions regarding your particular model’s installation.

3. Superoxidize the spa water with an EPA registered source of chlorine according to manufacturer’s instructions to burn off contaminants and activate cartridge.
   - Add 1.5 tablespoons of dichlor⁴ to spa per 250 gallons (approx. 1000 liters). Note: 1.5 tablespoons is approximately 3/4 oz or 24 grams.
   - Do not enter the spa if the free available chlorine residual is over 5 ppm.

   Important: Initial superoxidation with dichlor⁴ is required to burn off contaminants and activate cartridge.

4. Run spa according to recommendations supplied to you by the manufacturer of your spa.

Assembly and Installation Diagrams

1. Remove filter from spa.

2. Insert Monarch Mineral Spa Sanitizer into the stancpipe as shown in Figure 1.

3. Replace the filter.

Note: The Monarch Mineral Spa Sanitizer is designed to fit most portable spas. Watkins Manufacturing Corporation assumes no liabilities for the product if installed in any way other than the methods described in this manual.

⁴ Sodium dichloro-tristyryl cyanurate dihydrate
# Recipe

There is one (1) recipe for maintaining clean, clear, sanitized water with minimum time and effort. This recipe provides the easiest and most economical way to care for your Monarch® Mineral Spa Sanitizer.

## Low-Chlorine Recipe

**Ingredients:**
- Monarch Mineral Spa Sanitizer
- Non-chlorine oxidizer (MPS®)?
- Monarch MPS Test Strips®, or equivalent (MPS®?
  pH, total alkalinity)
- pH, hardness and total alkalinity adjusting chemicals
- Dichlor®, EPA registered source

<table>
<thead>
<tr>
<th>When</th>
<th>What to do</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Every day</strong></td>
<td>Run spa according to recommendations supplied to you by the manufacturer of your spa.</td>
</tr>
<tr>
<td><strong>Before each use</strong></td>
<td>Test the water with the Monarch MPS Test Strip (or equivalent). If the MPS® level is low, add 1 tablespoon of MPS® to spa per 250 gallons (approx. 1000 liters). Note: 1 tablespoon is approximately 1/2 ounce or 16 grams. Use the Monarch MPS Test Strip (or equivalent) to test the spa water after each addition of MPS®. If the test strip indicates levels below the OK range, add 1 tablespoon MPS® to spa per 250 gallons and re-test. Enter spa only after test strip indicates a sufficient level of MPS®.</td>
</tr>
<tr>
<td><strong>After each use</strong></td>
<td>Add 1 tablespoon of MPS® to spa per 250 gallons (approx. 1000 liters).</td>
</tr>
<tr>
<td><strong>Once per week</strong></td>
<td>Adjust the pH, total alkalinity, and hardness as needed. A convenient way to test pH and total alkalinity is the Monarch MPS Test Strip.</td>
</tr>
<tr>
<td><strong>Every 4 months</strong></td>
<td>Drain and refill your spa. Replace Monarch Mineral Spa Sanitizer and re-set sanitizer start-up.</td>
</tr>
</tbody>
</table>
When: What to do:

As needed: Shock treat with 1 1/2 tablespoons of an EPA registered source of dichlor per 250 gallons (approx. 1000 liters) to remedy problems which may occur when bathing loads are high, when successive MPS® test strip readings indicate high demand, when water appears hazy or dull, when unpleasant odors or eye irritation occur after heavy wind and rainstorms, or if foam develops.

Note: As an alternative to MPS®, an EPA registered source of dichlor may be substituted: 1 tablespoon dichlor = approximately 3 tablespoons MPS.

Important: Perform start-up procedures for spas which have been unused or unattended. The Monarch® Mineral Spa Sanitizer is not to be used with products containing biguanides. If biguanide or bromine products are being used, BE SURE TO DRAIN AND REFILL SPA WITH FRESH WATER WHEN USING THE LOW CHLORINE RECIPE.

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¹ Sodium dichloroisocyanurate dihydrate
² Potassium dichloroisocyanurate
³ MPS may cause a lowering of the pH and total alkalinity of your spa water. Please monitor pH and total alkalinity at least once per week and adjust accordingly.
⁴ Monarch MPS Test Strips are available at your local Caldera® Spas Dealer.
Provide Filtration/Circulation

<table>
<thead>
<tr>
<th>To manage</th>
<th>You need to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Circulation</td>
<td>Follow the manufacturer's directions for keeping the circulating pump in good working order and operate it at least four hours a day. Consult your Caldera Spa dealer for optimum run times.</td>
</tr>
<tr>
<td>Filtration</td>
<td>Check the spa's filter periodically and clean it as recommended by the manufacturer.</td>
</tr>
</tbody>
</table>

Monarch® Mineral Spa Sanitizer Replacement Intervals

Use the month indicator decal to identify the date on which the cartridge should be replaced. Always turn spa off prior to installing or changing Monarch® Mineral Spa Sanitizer. Your spa is operated under pressure and the pressure must be released before you begin work. Please see your spa owner's manual for further instructions.

A cartridge lasts four (4) months. The cartridge should not be used longer than four (4) months.

Disposal

After four (4) months of use, discard Monarch Mineral Spa Sanitizer in the household trash. Do not save the cartridge for re-use. The cartridge is manufactured with the mineral media sealed inside. In the unlikely event a cartridge breaks, remove it and vacuum out any media introduced into the spa.
Limited Warranty

MONARCH MINERAL SPA SANITIZER LIMITED WARRANTY

The limited warranties contained within this document are the only warranties given with your Monarch Mineral Spa Sanitizer and supersede any prior warranties. All other warranties, expressed or implied, including the implied warranty of merchantability or the implied warranty of fitness for a particular purpose are hereby disclaimed.

Our sole obligation under this warranty, and the purchaser's sole remedy, is limited to repair or replacement of the Monarch Mineral Spa Sanitizer. The Monarch Mineral Spa Sanitizer warranty applies to the original owner only.

LIMITED WARRANTIES OF THE MONARCH MINERAL SPA SANITIZER

Monarch Mineral Spa Sanitizer is warranted to be free of defects in materials and to perform satisfactorily for a period of four (4) months from the date of purchase. Monarch Mineral Spa Sanitizer is warranted not to cause staining in your spa. This limited warranty requires that you exercise reasonable care of your spa and keep water in balance at all times. This limited warranty does not cover discoloration to chromium fittings. This warranty does not cover cartridges used with any biguanide product. If the cartridge is defective and does not perform satisfactorily for the entire four (4) months, we will replace the cartridge.

EXCLUSIONS FROM WARRANTY

Monarch Mineral Spa Sanitizer is designed for use on residential portable spas up to 500 gallons. If it is used in any other application, the warranty is void, and the purchaser and/or spa owner releases the manufacturer from any and all claims related to the use of the Monarch Mineral Spa Sanitizer.

This warranty does not cover problems arising in whole or in part from purchaser's negligence, misuse or abuse, improper maintenance or storage, accident, improper installation, improper application, failure to follow all appropriate safety precautions, acts of God, abnormal weather conditions, damage from plants or animals, and improper use of chemicals.

This warranty specifically excludes all incidental or consequential damages except where state law requires them to be paid. This warranty gives you specific rights. You may have other rights that vary from state to state.

TO SUBMIT A CLAIM

Report claims to Waters Manufacturing Corporation at 800-669-1881. Only the original purchaser may submit a claim under this limited warranty. Claims must be accompanied by an original purchase receipt.
## Troubleshooting

<table>
<thead>
<tr>
<th>Problem</th>
<th>What to look for</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Cloudy water</strong></td>
<td>Slow filter turnover rates</td>
</tr>
<tr>
<td>Frequently caused by</td>
<td></td>
</tr>
<tr>
<td>improper start</td>
<td></td>
</tr>
<tr>
<td>up. See section on</td>
<td></td>
</tr>
<tr>
<td>Start Up and Install the</td>
<td></td>
</tr>
<tr>
<td>Cartridge</td>
<td></td>
</tr>
<tr>
<td><strong>Algae growth</strong></td>
<td>Hazy spa water; may have slightly</td>
</tr>
<tr>
<td></td>
<td>green appearance</td>
</tr>
<tr>
<td><strong>Unbalanced water</strong></td>
<td>1. High hardness</td>
</tr>
<tr>
<td></td>
<td>2. High TDS (total dissolved solids)</td>
</tr>
<tr>
<td></td>
<td>3. High pH</td>
</tr>
<tr>
<td></td>
<td>4. High total alkalinity</td>
</tr>
<tr>
<td><strong>Algae</strong></td>
<td></td>
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<tr>
<td>Algae may be caused by</td>
<td></td>
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<tr>
<td>insufficient levels of</td>
<td></td>
</tr>
<tr>
<td>oxidizer and/or</td>
<td></td>
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<tr>
<td>inadequate water</td>
<td></td>
</tr>
<tr>
<td>circulation</td>
<td></td>
</tr>
<tr>
<td><strong>Stains</strong></td>
<td></td>
</tr>
<tr>
<td>Blue/green</td>
<td>Copper or iron from spa equipment corrosion or water supply</td>
</tr>
<tr>
<td>Red brown</td>
<td>Iron or manganese from equipment corrosion or water supply</td>
</tr>
<tr>
<td>Black</td>
<td>Manganese in water supply</td>
</tr>
<tr>
<td>Metal tarnishing</td>
<td>High native mineral content in water; unbalanced water</td>
</tr>
<tr>
<td><strong>Scale</strong></td>
<td></td>
</tr>
<tr>
<td>Crusty deposits on spa</td>
<td>High pH and high total alkalinity</td>
</tr>
<tr>
<td>surfaces</td>
<td>High TDS (total dissolved solids) or high hardness</td>
</tr>
</tbody>
</table>

**Note**: Do not use algae treatments containing either copper or sodium bromide.
Treatment

1. Backwash and clean filter
2. Run filter for 24 hours
3. Increase run time per day

Superchlorinate water with EPA registered source of dichlor according to manufacturer's instructions.

Balance the spa water.

1. Check pH and adjust if necessary
2. Superchlorinate water with EPA registered source of dichlor according to manufacturer's instructions
3. Repeat steps 1 and 2 until algae is gone.

1. Adjust pH and total alkalinity to ideal ranges
2. Vigorously brush stained areas
3. Add sequestrant
4. Run filter
5. Twelve hours later, superchlorinate the spa
6. Test and balance water
7. Test spa water for dissolved solids

Clean with soft cloths and mild detergent.
Test water for minerals, use a sequestrant; maintain water balance.

Adjust pH and total alkalinity to ideal ranges.

1. Replace a volume of spa water with water low in hardness and dissolved solids
2. Use sequestrant to prevent scale buildup if high hardness is a continuing problem
3. If remedial action has been taken and problem still persists, drain and refill spa.
Monarch® MPS Test Strips

Just dip and swirl
the Test Strip.

See accurate and reliable
results on the levels of
MPS®, Alkalinity and pH
in your spa's water.

Now available at your local
Caldera Spas® Dealer.