SUPERIOR SPAS

Safety Tips

GENERAL

- Do not allow water temperatures to exceed 40°C (lower for children)
- Do not leave non swimmers / children unattended
- Do not overload the spa
- Do not use electrical appliances near water
- Use plastic and not glass around the spa
- Do not drink alcoholic beverages before or during use of spa's
- If you are pregnant, have high blood pressure or cardiovascular conditions then consult your doctor before using spa's
- When changing (dirty) filter cartridges, wear gloves

CHEMICAL HANDLING

- Read instructions thoroughly on each product/box before use
- When pre dissolving chemicals always add chemicals to water and not vice versa
- Never mix different chemicals in concentrated forms including these kit products but also with other products like bleach or weedkillers – a dangerous reaction may occur
- Always pre dissolve chemicals in a clean, plastic container in a well ventilated area
- Avoid spillages but in event of spillage clean up using clean receptacles and dispose in the spa. Flush cleaned spill areas with water
- Never use unlabelled chemicals
- Wash hands after handling spa chemicals

STORING CHEMICALS

- Store chemicals well away from children and pets
- Store in a secure, cool and dry place

Problem Solving Chart

SYMPTOM	CAUSE	REMEDY
Green water/ cloudy water	Inadequate sanitiser. Algae may be present	Shock dose with **Spa Fusion** or use double dose of **Spa Chlorine Granules** or **Spa Bromine Infused Granules** or consider if time to drain/refill
Too much chlorine	Overdose	Allow time to naturally dissipate or buy a chlorine reducer or dilute the spa water
pH hard to control	Alkalinity low	Use **Spa Alkalinity Increaser** to raise total alkalinity
Cannot maintain chlorine levels	Chlorine demand of water too high at start up, after holidays or due to excess contamination or neglect	Shock dose with **Spa Fusion** or use double dose of **Spa Chlorine Granules** or **Spa Bromine Infused Granules** Repeat after 24 hours if necessary
Foaming water	Oils/detergents present	Use **Spa FoamAway**
Cloudy water	Poor chemical controls or Inadequate filtration	Clean cartridges or consider if time to drain and refill. Retest water and add chemicals, if necessary
Rough spa sides/edges	Scale formation	Ensure pH levels are correct and if scale persists use **Spa ScaleAway** to stop calcium precipitating out of water
No colour change on test strip dip test	Too high chlorine leading to bleaching of indicator pads (over 15ppm chlorine)	Check expiry date on test strips. Wait for chlorine level to drop and re-test or dilute the spa water
Test results vary	Air bubbles can increase pH temporarily and reduce alkalinity	Test when system turned 'off' for true results

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SUPERIOR SPAS

Hot Tub & Spa Chemical Guide

Water Treatment Chemicals

ESSENTIAL INFORMATION ON...

- Starting up
- Circulation and filtration
- Water testing
- Chemical water treatment
- Draining and refilling
- Working out Spa volumes
- Safety and problem solving chart

Starter or Shock Dosing

AFTER THE SPA HAS BEEN ERECTED

After filling, do not turn on the jet systems until you have shock dosed your domestic spa to 20mg/l (ppm) of free chlorine for 2.5 hours or *50mg/l (ppm) of free chlorine, maintained for a minimum of 1 hour. Wait for chlorine/bromine to fall back to normal levels, prior to bathing commencing. Dose either quick dissolving sanitisers - **Spa Stabilised Chlorine Granules** or **Spa Bromine Infused Granules**, whilst the pump (only) is running and this procedure ensures that any water remaining in the spa (e.g. from factory wet tests) is immediately treated and bacteria free. Begin bathing only when chlorine or bromine levels fall back to the normal range (see below).

DOSE	PRE-TREATMENT TIME	SPA VOLUME
40 grams	2.5 hours	220 gallons (1,000 litre)
100 grams	1 hour	220 gallons (1,000 litre)

See page 4 for typical Spa volumes.

*NB the commercial spas current commissioning dose is recommended at 50mg/l (ppm) for one hour.

THE IMPORTANCE OF CIRCULATION AND FILTRATION

Most spa's include a pump and cartridge chamber as standard. It is a combination of circulating the water through the cartridge, to collect suspended particles and grease, together with good chemical water treatment, that helps you maintain clear, clean and healthy water.

It is advised to run your spa's circulation every day, as outlined in your spa owner's booklet. Some spa's run on a timer, which automatically ensures circulation, in which case just ensure the system is in good working order.

Note, when the cartridge filter is dirty, filter efficiency and circulation are impaired often leading to poor water quality. Typically, cartridges will need cleaning every 4 – 6 weeks, but more regularly when usage or contamination (e.g. grass in tub) is high.

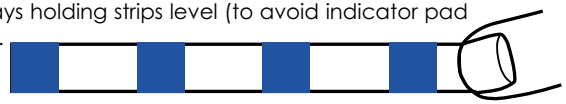
WATER TESTING AND IDEAL POOL LEVELS

Using **AquaSPArkle 4 way dip tests** you are able to quickly and accurately assess your spa's water conditions and make adjustments to chemical levels by adding appropriate quantities where necessary. Test daily whether the spa is in use or not, to keep on top of requirements as warm water will need regular sanitisation.

TEST	IDEAL READING
Free Chlorine	3 – 5 ppm *
Bromine	3 – 5 ppm *
pH	7.2 – 7.6
Total Alkalinity	80 – 150 ppm *

* ppm = parts per million
* total alkalinity should be learned in time only after mastering chlorine and pH first

When using **AquaSPArkle dip tests** follow the instructions on the bottle for best results being observant of the optimal reading times and always holding strips level (to avoid indicator pad colours mixing).



By regular testing of spa water you will soon learn how various activities like refilling, topping up, adding chemicals and general usage can affect various test readings.

Chemical Water Treatments

Bacteria Control – Use either **Spa Stabilised Chlorine Granules** or **Spa Bromine Infused Granules** directly into your spa or alternatively **Spa Chlorine Tablets** or **Spa Bromine Tablets** via a floating dispenser, to disinfect your spa water and keep it free from bacteria and slime.

To raise spa's water by 1 ppm (using chlorine or bromine granules)
Add 2 grams 220 gallons (1,000 litres)

To ensure the ideal reading of 3 – 5 ppm is maintained it is advised to aim for 5 ppm to provide a useful "buffer" for fluctuating conditions such as bathing loads and hot weather. The rate of chlorine/bromine consumption can and does vary depending on different conditions and they will be consumed even when there is no bathing (i.e. just sunlight or heat). Because of this, the only way to be sure that there is chlorine present in the water is to test regularly.

Oxidising – Regular oxidisation, either weekly or fortnightly, is recommended to remove any excess contamination and/or remove non filterable wastes. Three ideal products are **Spa Fusion** dual action sachets, **Spa & Spa Pod Rapid Shock** or **Spa Non Chlorine Shock** - dose as per product instructions.

pH Control and water balance – The pH scale of 0 – 14 measures acidic or alkali conditions respectively. The middle reading of 7 is neutral, so spa water with a pH below 7 is acidic and spa water with a pH above 7 is alkaline.

For Spa users the ideal pH level is slightly alkaline between 7.2 – 7.6, ensuring spa equipment protection and bather comfort are maintained (the pH level of the eye is consistent with this level). Maintaining ideal TA (Total Alkalinity) and Total Hardness levels will ensure fully balanced water. Low levels tend to lead to aggressive water, with higher levels leading to scale formation. It is easy to raise levels, although more difficult to lower them without draining/diluting the spa. However, high levels of hardness associated with hard water areas may be countered by regular treatment with **Spa ScaleAway**.

High pH	RISK OF...
High TA	* skin / eye irritation
High Hardness	* scale formation
	* reduces chlorine effectiveness
7.2-7.6 →	**IDEAL pH**
Low pH	RISK OF...
Low TA	* equipment corrosion especially metals
Low Hardness	* unpleasant smells and bather discomfort
	* chlorine quickly used up

Adjusting for water balance

If the pH of your spa water is above 7.6 then use **Spa pH Reducer** to reduce it, using the application instructions on the bottle. If the pH of your spa water is below 7.2 then use **Spa pH Increaser** to increase it, using the application instructions on the bottle. If TA or Hardness are below 80 and/or 100 respectively use **Spa Alkalinity Increaser** and/or **Spa Hardness Increaser** to raise. Incorrectly balanced water may lead to other issues with your spa and invalidate your warranty.

Chemical Water Treatments

Foam Control

Foam appearing on the water surface can be unsightly. Due to warmer spa water the build up of foaming agents from body oils, cosmetics etc, can sometimes exceed the spa filter cartridge's ability to remove them. In such cases an easy remedy is available using **Spa FoamAway**, dosed as below for effective foam control.

DOSE	SPA VOLUME
100 ml	220 gallons (1,000 litres)

Cleaning and Maintenance

Periodic cleaning of waterline grease using **Spa Surface Cleaner** will not only help your spa look good but will also optimise the use of your chemicals and help to reduce the time in which your spa's filter cartridge becomes dirty.

Always use cleaning products purposely made for hot tubs as household cleaners often contain detergents that can cause foam.

Draining, refilling and cleaning cartridges

Over time water absorbs minerals, chemicals and other soluble materials that lead to an increase in Total Dissolved Solids (TDS) in spa's water. This, in turn, reduces chemical efficiencies, can create dull water and makes spas hard to maintain correctly.

It is highly recommended to periodically, purge Hot Tub pipework by adding **Spa Hot Tub Flush** prior to draining the Hot Tub. Follow the label instructions for best results. When cleaning dirty cartridges on draining down it is prudent to always have a spare cartridge to readily reload into your spa's cartridge chamber. This allows thorough cleaning of the dirty cartridge which can be cleaned well with a special cleaning solution in a bucket. Use **Immerse Cartridge Cleaner** or **Spa Cartridge Cleaner Liquid** to produce a cleaning solution specifically for this purpose.

Working out Spa volumes

TYPICAL SPA SIZE	VOLUMES (g & Ltrs)
2/4 person round	175-264 gallons (800-1,200 ltrs)
4/6 person square	264-330 gallons (1,200-1,500 ltrs)