

[KPI1]

FILTERSORB® SP3

REVOLUTIONARY SCALE PREVENTION MEDIA

Advantages

- **No salt** required
- **No backwashing** required
- **No regeneration** cycle required
- **No increase in sodium content in water**
- Catalytic process converts **Ca**
- Removes the previous scales of into harmless micro crystals and Mg
- **Maintenance free.**
No extra cost incurred.
- **No chemicals** required for disinfection
- **No electrical connections required**
- No drain connections required
- No control valves required
- Very easy to install
- Great savings against conventional salt based water softeners
- Provide the best quality healthy water without the addition of Sodium or Phosphates



Green Technology !



Features

- 5 – 7 years media life
- Nucleation Assisted Crystallization (NAC)
- Best Quality Drinking Water





WHAT IS FILTERSORB® SP3?

FILTERSORB® SP3 is the result of extensive research work along with its undisputable success in the market, worldwide since 2005.

Watch's core motivation for developing this product was to find an alternative to conventional ion exchange based water softeners, reverse osmosis or other chemical based systems that prevent scale.

Recent restrictions placed upon the above mentioned technology lead to an environment friendly, cost effective solution for hard water, Watch's **FILTERSORB® SP3**. **FILTERSORB® SP3** completely takes care of the primary cause of scale forming cations viz. Ca^{2+} and Mg^{2+} .

Working Principle

When the hard water under goes nucleation in the pressure vessel, the calcium bicarbonate $Ca(HCO_3)_2$ is transformed into aragonite form of calcium carbonate $CaCO_3$ crystals. These crystals are formed through decomposition and crystallization process, forming very stable harmless crystals.

The following equation describes the reaction that occurs inside the pressure vessel when flow over grains of nucleation.



The name fragment "**SP** (Scale Prevention) **3**" is to indicate this unique transformation of water hardness $Ca(HCO_3)_2$ into **3** components viz.

1. $CaCO_3$ (micro-crystals)
2. CO_2 (colloid) and
3. H_2O (pure)

In the pressure vessel, the equilibrium of carbonate species in water is changed, assisted by the driving force of stable crystal formation and therefore the reaction is pushed to the right \rightarrow . With this technology, as long as CO_2 is being removed the soluble $Ca(HCO_3)_2$ converts into insoluble calcium carbonate ($CaCO_3$) crystals.

The calcium carbonate crystals grow steadily. They are **very stable** and **cannot dissolve** (incapable of forming scale) in the water. Glass grains crystallization sites provide **increased nucleation sites** for the formation of submicron sized $CaCO_3$ crystals. Hence this amazing process is called **NUCLEATION ASSISTED CRYSTALLIZATION** or **NAC** in short.

Lifespan of the Media

The effective average lifespan of **FILTERSORB® SP3** is 5 to 7 years, depending on the feed water conditions.

Standard packing and shipping mass

FILTERSORB® SP3 is packed in 60 Liter Drums.

Drum(s) on a pallet	L x W x H (cm)	Shipping Mass	
1	60 x 40 x 80	50 kg	60 liters
4	80 x 60 x 80	200 kg	4 x 60 liters
6	120 x 80 x 80	300 kg	6 x 60 liters
9	120 x 120 x 80	450 kg	9 x 60 liters
18	120 x 120 x 145	900 kg	18 x 60 liters

Food grade water conditioning media

FILTERSORB® SP3
(NAC Technology)

WATCHER
WATCH WATER
www.watchwater.de

HIGH PERFORMANCE SCALE PREVENTION MEDIA

Features:
No regeneration, No salt, No backwash, No chlorine, No electricity is required. Long service life.

Appearance: White opaque granules
Bead Size: 0.55 - 0.75 mm
Mesh (US): 20x35
Bulk Density: 780 g/L


Instruction of use:
Rinse with water for 1-2 minutes after installation

Storage:
Store in a dry place. Keep away from sunlight.
Do not freeze or store below 0°C (32°F)

H-Phrase: none
P-Phrase: none

Manufacturer: Watch Water GmbH
Friedensstr. 14, D-69165, Mannheim, Germany
Phone: +49 62187951-0
Fax: +49 62187951-99

Tested and Certified to NSF/ANSI 61 for materials safety only



Transport information:
ADR - IMDG - IATA/ICAO
Not regulated for transport

Net volume: 60 liters
Weight (approx): 47 kg

Batch No / Lot No:

Emergency Information (8:00-16:45) Phone: +49 621 87951-50





Physical Characteristics

Appearance	White / opaque solid granules	
Composition	modified ceramic beads	
Bulk density	SI	780 kg / m ³
	US	48.7 lb / ft ³
Particle size	SI	0.55 – 0.75 mm
Mesh size	US	20 x 35
Moisture content	10 – 25 %	

Operational parameters & water impurities

Flow direction	Up Flow	
Recommended operating time	SI	5 – 80 °C
	US	41 – 176 °F
ph range	6.5 – 9.5	
Hardness, max.	SI	1338 ppm (mg/l)
	US	75 gpg
Salinity, max.	35000 ppm (mg/l)	
Iron, max.	0.5 ppm (mg/l) *	
Manganese, max.	0.05 ppm (mg/l)	
Free chlorine, max.	3 ppm (mg/l)	
Copper, max.	1.3 ppm (mg/l)	
Oil	free	
Hydrogen sulfide	free	

* **FILTERSORB® SP3** is able to remove Iron from water with very high efficiency.

Note: Do not use where water is microbiologically unsafe or with water of unknown quality without adequate disinfection before or after the unit. System must be maintained according to manufacturer's instructions. Pre-treatment for sediment, Iron, Hydrogen Sulfide, Manganese, hydrocarbons and Copper may be required depending on conditions. Install systems in new facilities with copper pipe after six weeks of water use.

Applications

FILTERSORB® SP3 has proven itself in a variety of applications as an alternative to ion exchange softening or other conventional water treatment methods. The maintenance-free characteristics make it especially suited for Foodservice and Commercial applications where equipment maintenance is often overlooked. **FILTERSORB® SP3** treated water

preserves the essential minerals Calcium and Magnesium, making the water most healthiest drink available.

Home appliances: Faucets, water pipes, shower heads, shower cabins, toilets. All beverage systems, kitchen machines, dish washers, ice cubes, compact washers and dryers.

Major appliances: Central heating, air conditioners, water heaters, air humidifiers, coffee and tea makers, solar heating systems, water coolers.

Boilers: Hot water boilers, central heating boilers, combo boilers, catering water boilers, boilers and pool heaters, commercial water heaters, industrial hot water boilers.

Cooling towers: Closed circuit cooling towers, open circuit cooling towers, concrete cooling towers, cross flow cooling towers.

Industrial appliances: Winery, Car Washing, Dairy Processing, Food & Beverages, Injection Moulding, Irrigation, Nurseries, Reverse Osmosis pre-treatment etc.

Other applications:

- Irrigation
- Swimming pools and SPA
- Dairy Processing
- Winery and Beverages
- Planting and Gardening
- Automobile Washing
- Hotel, Restaurants and Institutions
- Coffee and Tea-machines
- Vending appliances
- and many more...





RED-OXY TREATMENT

FILTRATION

KATALOX LIGHT
CRYSTOLITE

ADSORPTION

CATALYTIC CARBON
TITANSORB
FERROLOX

FILTERSORB

FILTERSORB SP3
SPECIAL FILTER

INSTANT PRODUCTS

ISOFT CHEMICALS
OXYDES
OXYSORB
BIOXIDE
SCALE-OVER
GREEN-ACID

Certifications

FILTERSORB® SP3 is certified under ANSI/NSF 61 from WQA, USA

FILTERSORB® SP3 is BS 6920:2000

(British Standard, UK) certified.

FILTERSORB® SP3 is tested to meet MSZ 448-36:1985 standard (Hungary).

FILTERSORB® SP3 is certified from Department of Environmental Hygiene (Poland).

FILTERSORB® SP3 Tested to meet WRAS (Water Regulations Advisory Scheme, British Standard, UK) Standard of Product Quality and High temperature

WHY WE CONSIDER FILTERSORB® SP3 TO BE THE BEST?

- ✓ **No TDS change:** As **FILTERSORB® SP3** does not remove or add anything to the water. As no ion-exchange chemistry is used, the **TDS** of the water remains unchanged before and after the treatment.
- ✓ **No pH change:** The value of the water remains the same. This factor makes the treated water suitable for almost any use where corrosion is concerned.
- ✓ **Minerals Preserved:** **FILTERSORB® SP3** does not add sodium or any chemicals to the water. It simply preserves the Calcium and Magnesium contents of water, making the treated water arguably the healthiest mineral water available. Both Calcium and Magnesium are quintessential for nervous systems and muscles functionalities. They are indispensable parts in the cell chemistry of the plants and most of the life forms on earth.
- ✓ **De-Scaling:** Not only does **FILTERSORB® SP3** prevent scale formation, but it also helps to remove the previously formed scales. During the flow some of the micro-bubbles are losing a small amount of CO₂, which diffuses rapidly in water and interact with surface scale, especially in closed spaces (pipes, boilers, etc). As a result, the scale which is already present on these surfaces is removed slowly.
- ✓ **Biocidal effect:** The **NAC** process creates the conditions that water dissolved CO₂ agglomerate to form micro-bubbles. These CO₂ bubbles actively destroy bacterial membranes acting as a biocide. So along with the scale prevention **FILTERSORB® SP3** also helps to prevent Biofouling.

Special Information: **FILTERSORB® SP3** has good capacity to absorb Iron, Copper, Manganese, Lead, Zinc etc. Hence in high concentration presence of these contaminants the **FILTERSORB® SP3** beads may change color and come to an end of the media life. From studies it's also possible that the media

might change color due to dye leaching from the container tank made of polyethylene.

*In case of any strange color change of the **FILTERSORB® SP3** media beads or the treated water is noticed, please contact us with detailed water analysis.*

To know and learn more about this huge potential of **FILTERSORB® SP3** please contact us: