

Performance:

RoClean P303 offers an array of performance benefits:

- Superior results in the removal of **metals** and **calcium carbonate** scale, especially when compared to generic citric and hydrochloric acid solutions.
- NSF Certified for off-line use in systems producing drinking water.
- Compatible with both thinfilm (polyamide) and cellulose acetate elements.
- Comprised of a proprietary blend of buffers, chelants, surfactants, and dispersants
- Highly buffered to resist pH changes during the cleaning process.
- Can be used in conjunction with other applicable cleaners as shown in the Avista cleaner selection guide.
- Temperature compensated to maintain optimum pH over a wide temperature range.

RoClean P303 is a low pH powdered cleaner designed to remove metal foulants such as iron, manganese, and aluminum and to remove calcium carbonate scale deposits from spiral wound thinfilm and cellulose acetate elements.

This formulation is temperature compensated to ensure that the cleaning solution remains in the effective pH range regardless of variations in solution temperature.

Use Instructions:

Below is a summary of the RoClean P303 cleaning guidelines. For detailed procedures, please consult the Avista technical bulletin entitled "Cleaning of Spiral Wound Membrane Systems".

1. Fill the cleaning tank to the desired volume with RO permeate or DI water. Heat the solution to the maximum acceptable temperature (see membrane manufacturer guidelines, or use 50°C) as this will dramatically increase the cleaning efficiency. Add sufficient RoClean P303 to create a 2% wt/wt solution if the fouling is moderate/severe or 1% if the fouling is mild. Recycle the solution through the cleaning tank to ensure adequate mixing.

2. Recirculate the cleaning solution through each RO system stage, one at a time, for a minimum of 60 minutes at the flow rate recommended by the membrane manufacturer. If that rate is not known, use the guidelines listed below:

Element Diameter	Flowrate per Vessel, gpm (m ³ /hr)
4"	10 (2.4)
8"	40 (9)

3. If the membranes are heavily fouled and the recirculated cleaning solution becomes discolored or turbid, discard as much as 15% of the solution volume. Heavily fouled elements may also benefit from a soak period (up to 8 hours).

4. Monitor the pH of the solution during the cleaning process. If the pH remains in the desired range of 3.5 and the solution is not turbid, it may be used to clean subsequent stages. In the unlikely event that the pH rises above 4, prepare a new batch and repeat steps 1-4.

5. When the clean is completed, rinse the membranes by recirculating RO permeate through each pressure vessel. The system can then be returned to service.

Packaging and Storage:

Standard regional pack sizes are listed below. Custom packaging can be provided worldwide to meet customer needs. Information on drumless or bulk tanker delivery is available on request.

Specifications	
Appearance:	White powder
pH (2% solution):	2.4 –3.8
Density (kg/litre):	1.05± 0.05

Packaging Formats	Americas	EMEA
Pails	45 lbs	20 kg
Fibre Carboy	90 lbs	-
Fibre Drums	350 lbs	-



DRINKING WATER TREATMENT ADDITIVES CLASSIFIED BY NATIONAL SANITATION FOUNDATION,® TO ANSI/NSF 60 ON OCTOBER 2007 AS STANDARD DRINKING WATER TREATMENT CHEMICAL FOR USE OFF-LINE IN REVERSE OSMOSIS SYSTEMS.

Certified to NSF/ANSI 60

