

# RoClean P303

NSF Certified

Low pH RO Membrane Cleaner - Powder



## Performance:

RoClean P303 offers an array of performance benefits:

- \* Compatible with both thinfilm (polyamide) and cellulose acetate elements.
- \* NSF Certified for off-line use in systems producing drinking water.
- \* Comprised of a proprietary blend of buffers, chelants, surfactants, and dispersants
- \* Superior results in the removal of metals and calcium carbonate scale, especially when compared to generic citric and hydrochloric acid solutions.
- \* 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.

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**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 50°C as this will dramatically increase the cleaning efficiency. Add the RoClean P303 to the tank at a rate of 8.5 pounds per 50 gallons of water. 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 (Inches)	Flowrate per Vessel GPM (LPM)
4	10 (38)
6	23 (87)
8	40 (151)

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 3.5, 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.

## Dilution:

For moderate to severe fouling, RoClean P303 should be mixed at a rate of 8.5 pounds of chemical to 50 gallons of water. For milder fouling, a dilution of 4.25 pounds of chemical to 50 gallons of water may be sufficient.

## Packaging:

RoClean P303 is available in 45-pound pails, 90-pound carboys or 350-pound fiber drums.

## Properties:

<b>Appearance:</b>	White, free flowing powder
<b>pH:</b>	2.4 – 3.8 (2% solution at 25°C)



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.