Avista TECHNOLOGIES

Creative Chemistry. Smart Solutions.

RoClean P303

CLEANER | RO/NF

RoClean P303 powder is a multicomponent, low pH buffered cleaner formulated to tackle all acid removable scales and foulants from reverse osmosis (RO) membranes, including metals and calcium carbonate. Where powder is preferred, RoClean P303 is successfully applied to systems operating on seawater, brackish water and waste water.

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

PERFORMANCE BENEFITS:

- A specialized blend of proprietary buffers, chelants, surfactants and dispersants.
- Superior to generic citric and hydrochloric acid solutions in the removal of metals and calcium carbonate scale.
- NSF certified for off-line use in systems producing drinking water.
- Highly buffered to resist pH changes during the cleaning process.
- Temperature compensated to maintain optimum pH over a wide temperature range.
- Compatible with both polyamide and cellulose acetate membranes from all membrane manufacturers.
- Suitable for use with other Avista cleaners.

INSTRUCTIONS FOR USE

Cleaning

Below is a summary of the RoClean P303 cleaning procedure. For more detail, please refer to our technical bulletin, "Cleaning Spiral Wound Membrane Elements."

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

2. Run 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 these guidelines:

Element Diameter, inches	**Flow Rate per Vessel,** gpm (m^3/hr)
4	10 (2.4)
8	40 (9.0)

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 soaking period (up to 8 hours).

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

5. When cleaning is complete, rinse the membranes by flushing RO permeate through each pressure vessel. The system can then be returned to service.

PRODUCT INFORMATION

Packaging and Storage

Standard regional pack sizes are listed below. Information on drumless or bulk tanker delivery is available on request.

SPECIFICATIONS

Appearance: White powder
pH (2% solution): 2.4-3.8

PACKAGING FORMAT	AMERICAS /ASIA	EMEA
Pail	45 lb	20 kg
Carboy	90 lb	-
Drum	350 lb	-

LENNTECH

info@lenntech.com

www.lenntech.com

Tel. +31-152-610-900

Fax +31-152-616-289

Please consult your sales representative for further technical or logistical details and always review the SDS before use to ensure suitable safety precautions are followed.

CORPORATE OFFICES

Avista Technologies, Inc.

Avista Technologies (UK) Ltd

NSF Certified to NSF/ANSI 60