RoClean™ L211

Avista ™ High pH Liquid Cleaner

Product Description

RoClean L211 is a high pH, liquid cleaner formulated to remove colloidal material, clay, organics and organic foulants from reverse osmosis (RO) and nanofiltration (NF) membranes. This cleaner is successfully applied to systems operating on seawater, brackish surface and ground water, and where a liquid cleaner is preferred. RoClean L211 is commonly used as a maintenance cleaner for scheduled cleaning.

It is particularly effective on humic and fulvic organics which may arise in surface waters and is suitable to be applied to nanofiltration or other membranes with lower cleaning pH limits.

RoClean L211 is NSF certified for use as an offline cleaner in systems producing potable water.

As with any cleaning formula, RoClean L211 should be used in accordance with your Kurita representative's recommendations.

Features & Benefits

Effective – Effective blend of dispersants and low foaming surfactants is best for removing fouling from:

- Humic/fulvic organics
- Biological foulants

Safe – Compatible with polyamide membranes from all membrane manufacturers. Suitable for use with other AVISTA cleaners.

Highly Buffered – Resists pH changes during cleaning to remain within safe range for membrane contact.

NSF
Certified to NSF/ANSI/CAN 60

Physical Characteristics

Appearance:	Clear to Amber Liquid
pH 2% (20°C):	10.5 – 11.5
Specific Gravity:	1.05 – 1.2
Water Solubility:	Complete
Freeze Point:	14°F (< -10°C)

Revision Date: April 1, 2025

Dosage and Control

Below is a summary of the RoClean L211 cleaning procedure.

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 manufacturers guidelines), as this will dramatically increase the cleaning efficiency. Add sufficient RoClean L211 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 the 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 falls, add more cleaner or 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.

Available Packaging

Net weight:

Tote:	2375 pounds
Drum:	500 pounds
Pail:	45 pounds

Material Compatibility

Good chemical resistance: Stainless Steel (304 & 316), Polypropylene, Polyethylene, ABS, PVC, PVDF and PTFE.

Acceptable chemical resistance: EPDM and Buna N.

Viton, aluminum, brass, copper and mild steel are **not recommended** for use with this product.

Storage and Handling

When stored at a temperature between 45 - 100°F (7 - 35°C), unopened containers have a shelf life of 12 months from date of purchase.

Harmful if swallowed. Avoid contact with skin, eyes and clothing. Keep container closed when not in use. Read SDS prior to opening container.

Limit of Liability

Always follow the cleaning guidelines provided by the membrane manufacturer and the equipment manufacturer. Kurita America Inc will accept no responsibility for injury, or for membrane or other equipment damage that might result from the inappropriate application of this product.