

## REVERSE OSMOSIS CLEANERS

# RoClean™ L211

## High pH Liquid Cleaner

### APPLICATIONS

RoClean™ L211 is a high pH liquid, buffered, cleaner formulated to remove colloidal material, clay, organics, and bioslime from reverse osmosis (RO) and nanofiltration (NF) membranes when fouling is moderate. 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.

### CLEANING

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 manufacturer's guidelines), as this will dramatically increase 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 these guidelines:

ELEMENT DIAMETER inches	FLOW RATE PER VESSEL gpm (m <sup>3</sup> /hr)
4	10 (2.4)
8	40 (9.0)

3. At the beginning of the cleaning process allow 15% of the initial cleaning solution to go to drain. If there is not enough tank volume add 15% of the 1% or 2% cleaning solution. If the membranes are heavily fouled and the cleaner has extreme high color or suspended solids, rebatch the chemical. Heavily fouled elements may also benefit from a soaking period.
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.

### CHEMICAL AND PHYSICAL PROPERTIES

CHARACTERISTICS	DATA
Appearance	Clear to amber liquid
pH (2% solution)	10.5 – 11.5
Specific gravity (@25°C)	1.05 – 1.2

### PERFORMANCE BENEFITS

- RO and NF membrane cleaner formulated to remove moderate colloidal, clay and organic fouling.
- Commonly used as a maintenance cleaner for scheduled cleaning.
- Highly buffered to resist pH changes during the cleaning process.
- Compatible with polyamide membranes from all membrane manufacturers.

### PACKAGING

Standard regional pack sizes are listed below. Information on bulk delivery options is available on request.

PACKAGING FORMAT	EMEA
IBC	1100 kg
Drum	230 kg
Pail/Bag	–
Jerry Can	20 kg

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.

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