

# TriClean™ 210

## Low-pH Membrane Cleaner

Scaling is the most common fouling problem in reverse osmosis (RO) systems and often causes damage to the membrane surface that results in costly membrane replacement. Generic acids lack the efficiency to thoroughly remove certain types of scaling, leaving the membrane surface vulnerable to damage from the residual scale.

TriClean 210 is a multi-component, fast-dissolving powder low-pH cleaner developed for optimum removal of calcium carbonate and hard to clean scaling such as calcium sulfate, barium sulfate, strontium sulfate, calcium phosphate, calcium fluoride, metal hydroxides and iron from both CA and composite membranes. Efficient cleaning results in longer run times between cleanings and longer membrane life, resulting in lower annual operating costs.

### CLEANING PROCEDURE

Prior to cleaning, record pH and TDS readings of the permeate and concentrate water for reference during the final rinse. Appropriate safety equipment should be used.

1. Fill cleaning tank with RO water.
2. Add 1.4 kg (3 lb) of TriClean 210 for every 76 liters (20 gal) gallons of water.
3. Add 3.8 liters (1 gal) of TriClean 211 for every 380 liters (100 gal) of water (optional).
4. Adjust and maintain pH to a level between 2 – 3.
5. Heat solution to 40 – 45°C (104 – 113°F).\*
6. Recirculate cleaning solution through each stage, independently, for a minimum of 1 hour.
7. Static soak each stage, independently, for a minimum of 1 hour.
8. Recirculate cleaning solution through each stage again, independently, for 30 minutes.
9. Rinse cleaning solution from system using RO permeate water until concentrate pH is equal to RO permeate rinse water pH.

\* Consult with membrane manufacturer to determine max allowable temperature.

\*\*For a more detailed cleaning procedure, please see our Membrane Cleaning Guide – Water Application Elements (TSG-C-001).

### SYSTEM RESTART PROCEDURE

Flush permeate and concentrate of membrane system to appropriate drain at <50 psi for 15 minutes. Restart membrane system with both permeate and concentrate diverted to drain and flush for a minimum of 30 minutes. System can be put back online when RO permeate TDS, concentrate TDS and pH are similar to readings taken prior to cleaning.

### PACKAGING

TriClean 210 is shipped as a powder in 40 lb. and 100 lb. plastic containers.

### SDS INFORMATION

For the most up to date SDS information, please contact MANN+HUMMEL Water & Fluid Solutions Technical Service or visit our website at [www.microdyn-nadir.com](http://www.microdyn-nadir.com).

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