



Green Product 

OptiClean™ X Eco is an EDTA/phosphate-free low pH (acidic) powdered cleaner developed to lower negative impacts on the environment while maintaining aggressive cleaning action. The formulation includes a bio-degradable chelant and solubilizing agents to remove metal hydroxides, carbonates, sulfates, calcium phosphates and other similar scales. OptiClean™ X Eco is ideal for situations where broad spectrum scale removal is required.

### Features / Benefits

- Phosphate-free formula to reduce negative impact on the environment
- EDTA surrogate utilized to improve bio-degradability
- Buffered pH to maintain optimum cleaning performance throughout cleaning cycle
- Best results when used in conjunction with either OptiClean™ Y Eco or Lavasol™ 2
- Classified for use in membrane systems producing drinking water (ANSI/NSF Standard 60)

### Uses

- For use on reverse osmosis (RO), nanofiltration (NF), ultrafiltration (UF) and micro-filtration (MF) membranes
- Formulated to dissolve inorganic precipitants from the membrane surface
- To chelate and remove oxides of iron and aluminum from the membrane surface

### Specifications

Appearance	White powder
pH (1% solution)	2.50 - 4.00



### Packaging

Pail: 25 lbs

Pail: 45 lbs

Pail: 55 lbs

Pail: 10 kg

Pail: 25 kg

Bulk Bag: 1000 kg

*For special packaging options, please contact PWT or your local distributor.*

**OptiClean™ X Eco**  
POWDER MEMBRANE CLEANER

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## General Mixing & Application Instructions for OptiClean™ X Eco

1. Inspect all cleaning system components including CIP tank, hoses and cartridge filters. Flush or replace if necessary. Fill cleaning tank with RO permeate or DI water. Turn on agitator or tank recirculation pump.
2. Slowly add OptiClean™ X Eco to cleaning tank (1 pound [0.45 kg] of OptiClean™ X Eco for every 12 gal [45 L] of water) and mix thoroughly. The solution pH should match product specification. If necessary, adjust pH with a membrane-approved chemical such as caustic, citric, sulfuric, or hydrochloric acid. The solution should be heated up to 35 °C to improve cleaning efficacy.
3. Circulate solution in the same direction as the feed flow. Typical circulation times are 30-90 minutes.\* PWT recommends cleaning each stage of the system separately. Maximum flow rate per pressure vessel is 40 gpm (152 Lpm) for 8-inch elements and 10 gpm (38 Lpm) for 4-inch elements. Maximum pressure for cleaning is 60 psig (4.2 kg/cm<sup>2</sup>).
4. In cases of heavy fouling, divert the first 10-20% of cleaning solution to drain to prevent redeposition of removed solids.
5. Rinse with RO permeate before returning system to service. When returning unit to service, divert product water to drain until any residual cleaning solution has been rinsed from system.

\*Depending on the nature of the fouling, a soak period may be necessary for optimum results. Please contact PWT or your local distributor for custom cleaning procedure, or consult PWT's Technical Bulletin 503 for further cleaning recommendations.

## ProDose XPRT™ – Scaling Prediction Software

ProDose XPRT™ uses the most accurate scaling prediction calculations available to accurately determine effective antiscalant dosage, and cleaning chemical usage. The user can enter multiple cases to study various operating conditions, directly enter concentrate analysis, and select the best PWT product and dosage for the application.

ProDose XPRT™ is available upon request only. Please contact your PWT representative for more information.

The screenshot displays the PWT ProDose XPRT software interface. At the top, there are tabs for UNITS (US), TEMPERATURE (Fahrenheit), PERMEATE FLOW (81.00), RECOVERY (75.0%), ANTISCALANT (SpectroGuard Liquid), DOSAGE (2.95 PPM), SOURCE (Well Water), PROJECT NAME (Project 1), and CASE (1). The main interface is divided into several sections:

- PROJECT INFORMATION:** CLIENT NAME: City of San Diego, PROJECT NAME: Project 1, LOCATION: [empty], PREPARED BY: [empty], DATE: 5/1/2016, WATER TYPE: Well Water.
- MEASUREMENTS:** PRESET UNITS: CGS, Metric, U.S. (selected); TEMPERATURE: Deg F; FLOW RATES: Gal/min; MASS UNITS: lb. An 'Enter' button is present.
- COMMENTS (OPTIONAL):** A large text area for entering comments.
- TOTAL CASES (1 AVAILABLE):** A table with columns 'Cases' and 'Modified Date'. The table contains one row: Case 1, Modified Date 5/27/2016. Below the table is a 'Selected Case Description' field.

A sidebar on the left contains navigation icons for PROJECT INFORMATION, WATER QUALITY, SYSTEM INFORMATION, CHEMICAL SELECTION, CALCULATIONS, and REPORT.



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