



Green Product 

OptiClean™ N+ is a near neutral pH, enzyme activated powdered cleaner ideal for removing organic, biological, and particulate matter from all common water treatment membranes. Provides cleaning at milder pH conditions extending membrane life and is ideal for membrane systems troubled by high organic and/or biological loading. OptiClean™ N+ now features a high ionic solution strength, creating an osmotic effect that pulls permeate back through the membrane lifting deposits from the membrane surface to enhance the cleaning action. The formulation has been optimized to be nonhazardous, simplifying shipping and handling.

### Features / Benefits

- Enzymes are biodegradable and environmentally friendly chemical alternatives
- Ability to clean at moderate temperature and pH improves membrane longevity
- Buffered pH to maintain optimum cleaning performance throughout cleaning cycle
- Nonhazardous formulation provides safer handling
- Classified for use in membrane systems producing drinking water (ANSI/NSF/CAN Standard 60)

### Uses

- For use on reverse osmosis (RO), nanofiltration (NF), ultrafiltration (UF) and micro-filtration (MF) membranes
- To aid in the removal of particulate, colloidal and other acid insoluble foulants from the membrane surface

### Specifications

Appearance	White powder + Amber Liquid Enzyme
pH( 1% solution)	8.00 – 9.00



Certified to NSF/ANSI/CAN 60

### Packaging

Pail: 25 lbs/11.36 kg (+ Enzymes medley included)

Pail: 45 lbs/20.45 kg (+ Enzymes medley included)

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

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POWDER MEMBRANE CLEANER

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## General Mixing & Application Instructions for OptiClean™ N+

1. Inspect all cleaning system components to include 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™ N+ powder to cleaning tank (1 pound [0.46 kg] of OptiClean™ N+ for every 12 gal [45 L] of water) and mix thoroughly. The solution should be heated up to 35°C to improve cleaning efficacy.
3. Slowly add the Enzyme medley to the cleaning tank (9 ml of Enzyme medley for every 2 lb of OptiClean™ N+)
4. 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>).
5. In cases of heavy fouling, divert the first 10-20% of cleaning solution to drain to prevent redeposition of removed solids.
6. 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.

## 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 (SpectraGuard 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, PREPARED BY, DATE (5/1/2016), WATER TYPE (Well Water).
- MEASUREMENTS:** PRESET UNITS (CGS, Metric, U.S.), 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 for Cases and Modified Date. The table shows one case with a modified date of 5/27/2016.

At the bottom, there is a "Selected Case Description" field and a navigation bar with several dots and arrows.



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