



OptiClean™ N+ is an *enzyme* activated chemical cleaner that boosts chemical cleaning action with the use of bio-degradable enzymes. OptiClean™ N+ is an aggressive multicomponent cleaner ideal for removing organic, silt, particulate, and other insoluble foulants from thin-film composite (RO and NF), UF and MF membranes. Combining select water activated chelants, solubilizing agents, buffers, and enzymes, OptiClean™ N+ provides cleaning at milder pH conditions extending membrane life and is ideal for membrane systems troubled by high organic loading.

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
- 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 break up and dissolve organic foulants from the membrane surface
- 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 (0.5% Solution)	8.00 – 9.50

Packaging

- Pail: 25 lbs (+ Enzymes medley included)
- Pail: 45 lbs (+ Enzymes medley included)
- Pail: 55 lbs (+ Enzymes medley included)
- Pail: 10 kg (+ Enzymes medley included)
- Pail: 25 kg (+ Enzymes medley included)
- Bulk bag: 1000 kg (+ Enzymes medley included)

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



 **OptiClean™ N+**

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POWDER MEMBRANE CLEANER

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 (0.5 pound [0.23 kg] of OptiClean™ N+ for every 12 gal [45 L] of water) and mix thoroughly. Adjust solution pH with a membrane-approved chemical such as sulfuric or hydrochloric acid to ~9. The solution should be heated up to 35°C to improve cleaning efficacy.
3. Slowly add the Enzyme medley to the cleaning tank (8 ml of Enzyme medley for every 1 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/cm²).
5. In cases of heavy fouling, divert the first 10-20% of cleaning solution to drain to prevent re-deposition 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 software interface. At the top, there is a navigation bar with various parameters: 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:** Includes fields for CLIENT NAME (City of San Diego), PROJECT NAME (Project 1), LOCATION, PREPARED BY, DATE (5/1/2016), and WATER TYPE (Well Water).
- MEASUREMENTS:** Includes PRESET UNITS (CGS, Metric, U.S.), TEMPERATURE (Deg F), FLOW RATES (Gal/min), and MASS UNITS (lb). There is an "Enter" button.
- COMMENTS (OPTIONAL):** A large text area for entering comments.
- TOTAL CASES (1 AVAILABLE):** A table showing the number of cases and their modified dates.

Cases	Modified Date
1	5/27/2016

Below the table, there is a section for "Selected Case Description".



PWT Headquarters & Manufacturing
1048 La Mirada Court, Vista, California 92081

Toll-Free: 800.914.9072 | Direct: 760.639.4400 | Fax: 760.639.4439
Email: sales@pwtchemicals.com | www.pwtchemicals.com



Headquarters: 54/18 Bui Quang La, Ward 12, Go Vap District, HCMC, Viet Nam
Office: 12 DHT10B, Dong Hung Thuan Ward, District 12, HCMC, Viet Nam
Phone: (028) 6258 5368 - (028) 6291 9568
Email: info@atswatertechnology.com
Website: www.atswatertechnology.com