



Lavazol™ 5 is a low pH (acidic), low foaming liquid cleaner devised to remove silica and other inorganic scales present on polyamide thin-film composite, cellulose acetate or ultrafiltration membranes. Silica is inherently difficult to remove, but Lavazol™ 5 was specifically formulated to target and remove tough silica scale, while helping remove other inorganic scales present. For systems where predominate inorganic scale is not silica, it is best to use a broad spectrum low pH cleaner (Lavazol™ 1 or OptiClean™ A) prior to Lavazol™ 5.

### Features / Benefits

- Extremely effective silica specific cleaner
- Phosphate-free formula to reduce negative impact on the environment
- Can be mixed with other low-pH cleaners such as Lavazol™ 1 for a comprehensive cleaning
- 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
- For effective removal of silica fouling from polyamide membrane elements
- Will also dissolve inorganic scales as Lavazol™ 5 is an acidic formulation

### Specifications

Appearance	Pale yellow liquid
pH (2% solution)	3.50 - 4.00
Density (kg/liter)	1.00 - 1.10



Certified to  
NSF/ANSI 60

### Packaging

Pail: 5 gallon/18.9 liter

Tote: 275 gallon/1,040 liter

Drum: 55 gallon/208 liter

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

**Lavazol™ 5**  
LIQUID MEMBRANE CLEANER

# Lavasol™ LIQUID MEMBRANE CLEANER 5

## General Mixing & Application Instructions for Lavasol™ 5

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 Lavasol™ to cleaning tank (1 gal [3.8 L] of Lavasol™ for every 50 gal [189 L] of water). 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 45°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 re-deposition 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 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). Below this, a sidebar on the left contains menu items: PROJECT INFORMATION, WATER QUALITY, SYSTEM INFORMATION, CHEMICAL SELECTION, CALCULATIONS, and REPORT. The main content area is divided into several sections: OVERVIEW (with 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 (with preset units set to CGS, temperature in Deg F, flow rates in Gal/min, and mass units in lb), COMMENTS (OPTIONAL) (a large empty text area), and TOTAL CASES (1 AVAILABLE) (a table with one row: Case 1, Modified Date 5/27/2016). The interface is clean and professional, with a dark grey header and sidebar, and a light grey main content area.



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