



# Optimum Flow<sup>TM</sup>

*Membrane Cleaning Enhancement*

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## Membrane System Performance Program

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### Diamite CAL<sup>TM</sup>

Diamite CAL<sup>TM</sup> is an aqueous formulation of chelating agents specifically designed to dissolve calcium sulfate scales (gypsum as dihydrate, anhydrite as anhydrous and hemihydrate forms) that are commonly found in aqueous systems, such as reverse osmosis, nano filtration, cooling, ion exchange, boiler and distribution systems. It is also effective in dissolving strontium sulfate and calcium fluoride scales, but not barium sulfate, unless barium sulfate crystals are embedded in calcium or strontium sulfate matrix in which case barium sulfate particles become dislodged and suspended. On an equal weight basis, the active ingredients in Diamite CAL will dissolve several times more scales and more rapidly and more rapidly than the most commonly used chelating and solubilizing agents. Diamite CAL is available in the liquid form and the spray-dried powder form. The powder form by weight is approximately twice as active as the liquid form. It is non-toxic and environmentally friendly.

**Application Notes:** For cleaning and descaling reverse osmosis and other membrane filtration systems, liquid Diamite CAL is diluted 40x with good quality water (e.g. 1 gallon in 40 gallons of cleaning solution), then slowly re-circulated through the system until no more scales dissolve, which usually takes one to several hours depending on the quantity and surface area of scales. The progress of dissolution can be conveniently monitored with a conductivity meter. A 1:40 dilution of Diamite CAL typically has a pH of 11.5, and a conductivity of 8,000 microS. When conductivity increase flattens, it either means all scales have been removed, or that more reagent is needed. At this point either the spent solution can be discharged and a fresh batch of solution prepared, or additional amount of Diamite CAL added, and conductivity change continues to be monitored. The weight ratio of scales dissolve by Diamite CAL is approximately 4 parts Diamite CAL liquid (2 parts Powder) to 1 to 2 part scales.

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#### Specification: Liquid

**Appearance:** colorless to pale yellow liquid  
**pH:(aqueous sol'ns)** <11.5  
**Specific Gravity:** 1.20 - 1.35  
**Solubility in water:** Unlimited

#### Specifications: Powder

**Appearance:** colorless powder  
**pH: (aqueous sol'ns)** <11.5  
**Bulk Density:** Approx. 0.5 kg/l  
**Solubility:** Max of 50% solution by weight.

**Packaging:** Custom sizes, drums or totes.

\*MSDS available upon request.