



FRA8001 Membrane System Acidic Cleaning Agent

FRA8001 Membrane System Acidic Cleaning Agent is a high-efficiency solution specifically applied for chemical cleaning of reverse osmosis membrane systems, targeting metal hydroxides, calcium carbonate, and other calcium/magnesium-based inorganic scales. Featuring an optimized acidic formulation, it leverages synergistic dissolution and chelation mechanisms to gently yet effectively remove stubborn deposits from membrane surfaces, rapidly restoring flux and salt rejection performance while strictly preserving the structural integrity of polyamide and cellulose acetate membranes. Ideal for routine maintenance and emergency cleaning across power, chemical, and municipal water applications, FRA8001 —when applied with standardized protocols—significantly extends membrane service life and delivers a safe, reliable solution for comprehensive membrane lifecycle management.

Product Features

- ❖ **Universal Membrane Safety:** Verified compatibility with all major polyamide and cellulose acetate membranes; zero corrosion or damage risk during cleaning.
- ❖ **Low-Foam Efficiency:** Minimizes foam interference during circulation, enhancing cleaning visibility and operational efficiency.
- ❖ **Precision Acidity Control:** Maintain cleaning solution pH at 2.0–3.0; optimal efficacy at 30–40°C (strictly $\leq 45^\circ\text{C}$) for superior scale dissolution.
- ❖ **Ready-to-Use Liquid Formulation:** Rapid dissolution and easy preparation significantly reduce on-site setup time.
- ❖ **Intelligent Process Monitoring:** pH trajectory guides endpoint determination, preventing under- or over-cleaning.
- ❖ **Cost & Eco-Efficient:** Recommended 10% dilution ratio ensures precise usage; spent solution is readily treatable per industrial environmental standards.

Physicochemical Properties

The following represent typical properties of FRA8001 for reference only and are not guaranteed supply specifications.

Refer to official technical documentation for certified data.

Item	Index
Appearance	Clear amber liquid
pH (1% aqueous solution, 20°C)	2.0–3.0
Density (20°C) (g/cm ³)	1.05
Minimum Storage Temperature	-10°C

*For specialized applications or customized solutions, please contact FFM Inc. directly.



Instructions for Use

- ❖ Dilution Ratio: Dilute to 10% of total cleaning solution volume (cleaning agent:water = 1:9).
- ❖ Cleaning Procedure:
 - Inspect cleaning tank, piping, and cartridge filter; replace cartridges if needed.
 - Fill tank with RO permeate.
 - Slowly add FRA8001; circulate with cleaning pump. Measure pH; if >3.0, adjust downward with cleaning agent or dilute HCl to 2.0–3.0; if <2.0, dilute slightly with water.
 - Circulate 1–10 hours (based on fouling severity); monitor pH every 5–20 minutes. When pH \geq 4.0, replenish cleaning agent or dilute HCl to maintain acidity until pH stabilizes (indicating completion). For heavy fouling, combine soaking with circulation.
 - For severe contamination, drain initial solution to prevent redeposition; prepare fresh solution for secondary cleaning.
 - Maintain solution temperature at 30–40°C (strictly \leq 45°C); monitor continuously.

Packing and Storage

Packaged in 25 kg plastic drums. Store in a cool, dark place at room temperature.

Shelf Life

12 months.

Precautions

Acidic product (not weakly acidic). Wear acid-resistant gloves, goggles, and protective clothing. Avoid skin/eye contact. In case of contact, rinse immediately with ample water for \geq 15 minutes; seek medical attention if irritation persists.