FRA1800 Scale Inhibitor

FRA1800 Scale Inhibitor is an organic acid-based aqueous scale inhibitor and dispersant engineered specifically for reverse osmosis systems to address inorganic scale deposition challenges in high-salinity feed waters. Featuring precision molecular design, it enhances permeate productivity and water quality reliability while ensuring long-term system stability. Certified for drinking water safety compliance, FRA1800 is widely adopted across municipal water supply, food and beverage processing, electronic ultrapure water production, and high-end industrial water treatment applications — delivering a safe, cost-effective, and sustainable membrane protection solution.

Product Features

- Effectively inhibits formation of key inorganic scales including calcium carbonate ($CaCO_3$), calcium sulfate ($CaSO_4$), barium sulfate ($BaSO_4$), strontium sulfate ($SrSO_4$), and calcium fluoride (CaF_2).
- No precipitation or performance loss when used with polymeric coagulants/flocculants, ensuring seamless integration with pretreatment processes.
- Fully compatible with major RO membrane elements from Hydranautics, Dow FilmTec, Fluid Systems, Koch Membrane Systems, GE Water, Woongjin Chemical, and Toray.
- Complies with national drinking water treatment chemical safety standards; suitable for potable water and food-grade applications.
- Delivers robust scale control at standard dosing levels, extending cleaning intervals and reducing total operational and maintenance expenses.

Physicochemical Properties

The table below lists the typical properties of FRA1800, but these should not be regarded as product supply specifications (refer to recorded product specifications).

Item	Indicator
Appearance	Colorless to light yellow liquid
Odor	Slight
pH value	≥10.0
Specific gravity at 20℃	1.22±0.1
Freezing point range	0 to 3℃

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

Dosage Instructions

The dosing rate must be determined based on water quality analysis reports and system conditions, and it is recommended to consult our company's technical engineers before use. FRA1800 can be mixed with water in any proportion and can be used in either pure product form or as an aqueous solution. The minimum recommended concentration of the dosing solution is 10%, and the typical dosing amount is referenced to the feed water flow rate at 2-6mg/L/ton/hour.The recommended dosing point is downstream of all filtration equipment and cartridge filters.FRA1800 should be added continuously and in proportion to the water flow rate to maintain the recommended dosage level. The dosing amount depends on the feed water quality and the saturation index of scaling components in the concentrated brine, and specialized software can be used to calculate the system's optimal recovery rate for scaling indices, dosing amount predictions, and record recommendations.The volume of FRA1800 concentrated solution to be added to the dosing tank can be calculated using the following formula:

$$U = \frac{Q \times a \times V}{1000 \times \rho\_conc \times X \times n}$$

Where:

U — Volume of concentrated solution to be added, liters (L)

Q — Reverse osmosis feed water flow rate, cubic meters per hour (m^3/h)

a — Dosage, milligrams per liter (mg/L or ppm)

V — Effective volume of dosing tank, liters (L)

ρ_conc — Density of scale inhibitor concentrated solution, kilograms per liter (kg/L)

X — Actual output of dosing metering pump, liters per hour (L/h)

n — Concentration factor

Packing and Storage

Packed in 25 kg plastic drums, and can also be packed according to customer requirements. During storage and transportation, stay away from sources of ignition, heat sources, avoid exposure to sunlight, and prevent water ingress and collisions. Store in a cool and well - ventilated place.

Shelf Life

Two years.

Safety and Protection

When operating, pay attention to safety protection, avoid contact with skin, eyes, etc. If contact occurs, rinse with large amounts of water and seek medical attention immediately.