



## FCA5101 Prefilming Agent

FCA5101 is a high-efficiency prefilming agent engineered specifically for the critical pre-operational prefilming stage of industrial recirculating water systems. Applied after successful chemical cleaning, it rapidly forms a dense, uniform composite protective film on carbon steel, copper alloys, stainless steel, and other metal surfaces through chelation with divalent metal ions (e.g.,  $\text{Ca}^{2+}$ ,  $\text{Mg}^{2+}$ ) in water. This film effectively isolates corrosive media, significantly enhancing the system's initial corrosion resistance. As a foundational step in water treatment protocols, FCA5101 ensures seamless transition to routine water stabilization, safeguarding long-term operational reliability across power, petrochemical, and metallurgical cooling systems.

### Product Features

- ❖ Precision Film Formation: Chelates selectively with divalent ions to build a highly adherent, dense composite film within 48 hours, optimizing surface passivation.
- ❖ Multi-Metal Compatibility: Effective on carbon steel, copper alloys, stainless steel, and galvanized pipes; mitigates galvanic corrosion risks in heterogeneous systems.
- ❖ Seamless Process Integration: Works synergistically with FCA5102; post-prefilming water replacement enables smooth transition to routine treatment without process interruption.
- ❖ Operational Efficiency: Dosage 160 – 500 mg/L; excellent water solubility; forms film under ambient-temperature circulation—no heating or special equipment required.
- ❖ Eco-Compliant Workflow: Post-prefilming replacement to total phosphorus  $\leq 20.0$  mg/L (as  $\text{PO}_4^{3-}$ ) ensures environmental compliance; low-toxicity formula supports safe handling.
- ❖ Broad Compatibility: Harmonizes with mainstream corrosion/scale inhibitor programs without interference.

### Physicochemical Properties

The following represent typical properties of FCA5101 for reference only and are not guaranteed supply specifications.

Refer to official technical documentation for certified data.

Item	Index
Appearance	White crystalline powder
Density (20°C) (g/cm <sup>3</sup> )	>2.35
Solubility	Freely soluble in water

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

### Instructions for Use



## Product Data Sheet- Membrane & Water Treatment Chemicals

Calibrated Chemistry, Constant Capability

- ❖ Application Stage: Prefilming phase after chemical cleaning and before system commissioning.
- ❖ Procedure:
  - Use in conjunction with FCA5102; dose at 160–500 mg/L based on system water volume.
  - Circulate at ambient temperature for  $\geq 48$  hours to ensure uniform film formation.
  - After prefilming, replace system water until total phosphorus  $\leq 20.0$  mg/L (as  $\text{PO}_4^{3-}$ ), then proceed to routine water treatment.

### Packing and Storage

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25 kg/bag (with moisture-proof inner liner). Store sealed in a cool, dry, well-ventilated area.

### Shelf Life

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6 months.

### Precautions

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Wear dust mask, chemical-resistant gloves, and goggles. Avoid inhalation. Rinse skin immediately with water in case of any contact.