FCA1300 Corrosion and Scale Inhibitor

FCA1300 is a composite water stabilizer applicated specifically for high-load recirculating cooling water systems in the petrochemical industry, strictly compliant with 《SH 2604.07-2003》 (Petrochemical Industry Standard for Conventional Water Treatment Chemicals). Integrating organophosphonate chelation, azole-based corrosion inhibition, and multi-copolymer dispersion technologies, it establishes a dynamic protective system in complex environments containing oils, sulfides, and high ionic strength. The formulation simultaneously suppresses inorganic scaling (e.g., calcium carbonate, calcium sulfate) and delivers long-term synergistic corrosion protection for heterogeneous metals including carbon steel, copper alloys, stainless steel, and aluminum. Successfully deployed in core petrochemical units—such as catalytic cracking, ethylene cracking, and aromatics complexes—FCA1300 significantly enhances heat transfer efficiency and operational reliability, supporting enterprises in achieving water resource conservation and safe production goals.

Product Features

- Petrochemical-Optimized Formulation: Enhanced resistance to oil contamination and sulfide interference; maintains stability under trace process media leakage scenarios.
- Targeted Copper Protection: Azole compounds ≥ 0.8% provide specialized defense for copper and copper alloys, minimizing dezincification and pitting risks.
- High-Solid Economical Design: Solid content ≥ 28.0%; effective at low dosage (50 – 80 mg/L), optimizing total chemical consumption and operational cost.
- Smart Compatibility: Stable synergy with oxidizing/non-oxidizing biocides; no precipitation or antagonism, streamlining on-site chemical management.
- Broad Water Condition Adaptability: Consistent performance under demanding parameters (hardness ≤1200 mg/L as $CaCO_3$, pH 7.0–9.2).
- HSE-Compliant & User-Friendly: Low-toxicity formula aligned with petrochemical HSE standards; liquid form integrates seamlessly with intelligent dosing systems for safe, efficient operation.

Physicochemical Properties

The following represent typical properties of FCA1300 for reference only and are not guaranteed supply specifications. Refer to official technical documentation for certified data.

Item	Index
Appearance	Light yellow transparent liquid
pH (1% aqueous solution)	≤4.5

Density (20°C) (g/cm³)	≥1.12
Azole Compounds (%)	≥0.8
Solid Content (%)	≥28.0
Total Phosphates (as PO_4^{3-}) (%)	≥6.0
Phosphite (as PO_3^{3-}) (%)	≤0.4

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

Dosage Instructions

- Application Scope: Designed for high-hardness, high-alkalinity, high-pH recirculating cooling water systems in petrochemical plants (complex scenarios with oil/sulfur contaminants); also suitable for power, metallurgy, refining, and chemical sectors.
- Dosing Method: Continuous injection via metering pump at return header; recommended dosage: 50–80 mg/L (based on system water volume). Adjust according to water analysis (Ca^{2+}, HCO_3^-, Cl^-, turbidity) and corrosion monitoring. Maintain system pH within 7.0–9.2.

Packing and Storage

25 kg plastic drums; custom packaging available. Store in a cool, dry, well-ventilated area away from direct sunlight and high temperatures.

Shelf Life

12 months.

Safety and Protection

Weakly acidic liquid. Wear protective gloves, goggles, and workwear during handling. Avoid skin/eye contact. In case of any contact, rinse with ample water immediately for ≥15 minutes; seek medical attention if irritation persists.