



Cost-effective hybrid
polymer for scale and
deposit control



Aquatreat[®] HP 250

Nouryon



Aquatreat HP 250 hybrid polymer

Nouryon introduces a new generation of polymer technology that combines plant-based polysaccharides and petrochemical-based synthetic monomers. Aquatreat HP 250 is a “hybrid polymer” that combines the benefits of both synthetic and natural materials in one molecule.

Aquatreat HP 250 delivers:

- Cost-effective alternative that can replace polyacrylic acid or polymaleic acid in formulations
- Superior calcium carbonate crystal modification
- Improved iron stabilization properties
- Outstanding prevention of adherent deposits
- Excellent stability to oxidizing biocides
- Easy formulation
 - Flexible for both high and low pH systems
 - Increased compatibility in high electrolyte systems
- Greater sustainability
 - Favorable environmental impact
 - Does not increase the biological oxygen demand (BOD) of the system

By combining biopolymers and synthetic polymers, Nouryon's Aquatreat HP 250 delivers improved performance over both natural and synthetic alternatives.

Superior calcium carbonate crystal modification

Aquatreat HP 250 delivers superior calcium carbonate crystal modification. The micrographs shown in Figures 1-3 are all the same scale.

Figure 1: No inhibitor, ~50 μm

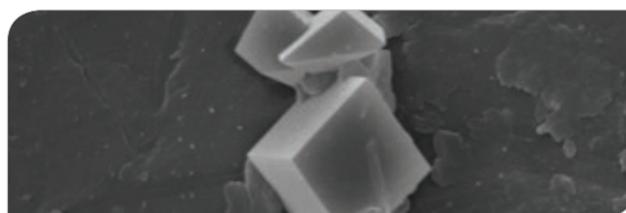


Figure 2: Polyacrylic acid, ~200 μm

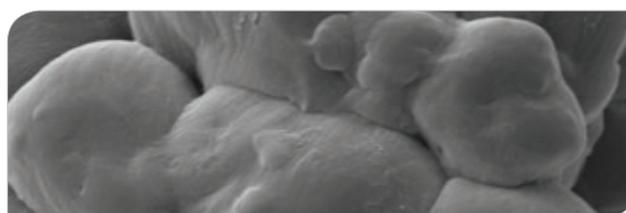
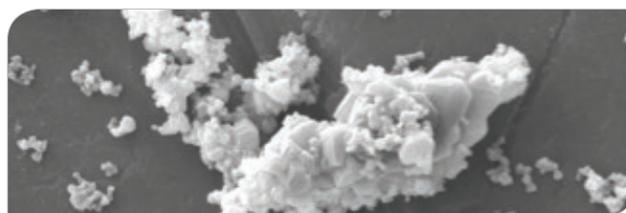


Figure 3: Aquatreat HP 250, 0.6- 2 μm



Outstanding prevention of adherent deposits

Aquatreat HP 250 demonstrates outstanding deposit control. The hybrid polymer shows unequalled prevention of adherent deposits compared to acrylic homopolymer and maleic copolymer. Figures 4 and 5 show the relative effectiveness of Aquatreat HP 250 in preventing iron and calcium deposition on heat exchangers.

Figure 4: Outstanding prevention of iron deposition on heat exchangers

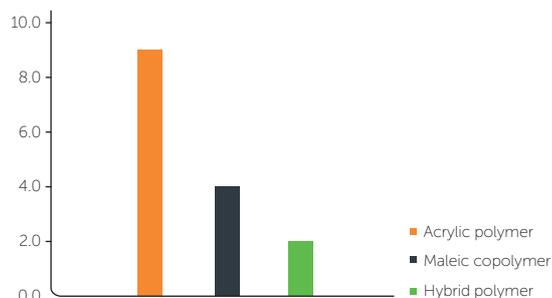
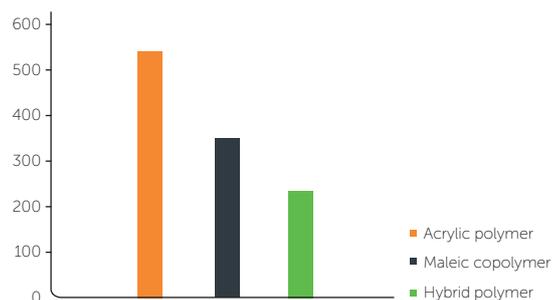


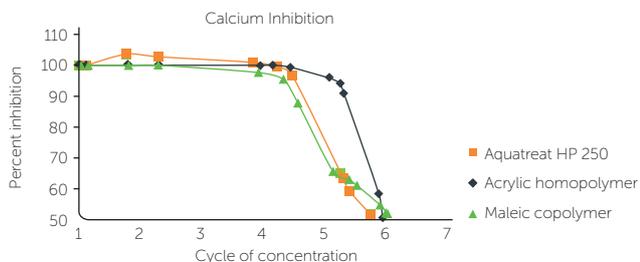
Figure 5: Outstanding prevention of calcium deposition on heat exchangers



Excellent stability to oxidizing biocides

Aquatreat HP 250 continues to demonstrate calcium inhibition even in environments with oxidizing biocides, as shown in Figure 6.

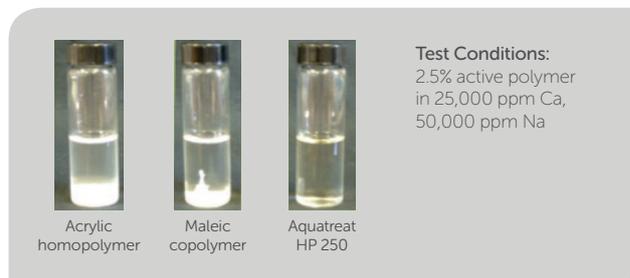
Figure 6: Excellent stability to oxidizing biocides



Easy formulation

Aquatreat HP 250 demonstrates increased compatibility with high electrolyte systems as shown in Figure 7.

Figure 7: Increased compatibility with high electrolyte systems



Aquatreat HP 250 provides versatility for both high and low pH systems.

pH > 13.0

1.7% Tolyltriazole (TTA)
2.1% PBTC
4.2 Aquatreat HP 250
4.2% AR-540
5.2% Disodium Phosphate

pH < 2.0

1.7% Tolyltriazole (TTA)
2.1% PBTC
4.2 Aquatreat HP 250
4.2% AR-545
4.3% Phosphoric Acid

Typical product characteristics

Form
Active content
pH

Benefits

Liquid, easily pourable
39-41%
4-6

Storage and handling

Aquatreat products are available in bulk, intermediate bulk and 55-gallon drums. The standard drum is fiber with 525 pounds net. Plastic drums are also available. Aquatreat products have very low toxicity. Consult product MSDS for further information.

Contact with the skin or eyes should be avoided. If an Aquatreat product contacts the eyes, flush with water. If redness or sensitivity occurs and persists, consult a physician.

Aquatreat polymers should be shipped and stored in 304 stainless steel or better, fiberglass or plastic tanks. Certain phenolic linings are acceptable for use in drums and storage tanks. Mild steel, copper, brass and aluminum should not be used. The above materials of construction also apply to all pipes, valves and pumps used in the application or transport of Aquatreat polymers.

Contact us directly for detailed product information and sample requests.

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