Solugen™ Water Treatment Solutions

AcquaCore® Series

Low Carbon, Multifunctional Corrosion Inhibitors for Phosphorous Reduction

Enabling High Performance Low P, HEDP-Free All Organic Cooling Tower Formulations with Improved Environmental Profile and Reduced Cost

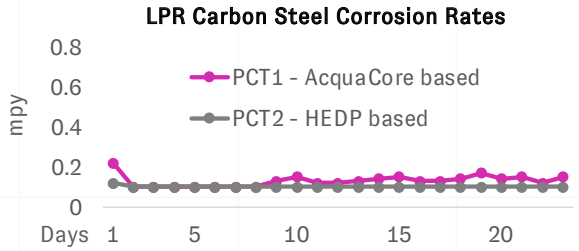
HEDP and PBTC are common components in cooling tower (CT) formulations to manage mild steel corrosion and scale; however, these phosphorous-based chemistries bring significant challenges to formulators:

- Added expense to manage Ca_3PO_4 scale
- Strict environmental regulations for discharge
- Limited supply of P-based chemistries

AcquaCore® Replaces HEDP in Low P All Organic Formulation with No Adverse Impact on Corrosion and Scale

Across two 20-day pilot cooling tower (PCT) trials, replacing HEDP with AcquaCore in a typical all-organic formulation, the AcquaCore-based formulation 1) kept corrosion rates low, 2) reduced P content by 53%, 3) lowered discharge water toxicity, 4) reduced Ca_3PO_4 scaling tendency, and 5) helped avoid lake eutrophication.

Well Water Composition	
Ca^{2+}	114 ppm ($CaCO_3$)
Mg^{2+}	10 ppm ($CaCO_3$)
HCO_3^-	130 ppm ($CaCO_3$)
SiO_2	14 ppm
Cl^-	30 ppm ($CaCO_3$)
SO_4^{2-}	1 ppm ($CaCO_3$)
pH	7.8
Conductivity	328 µS/cm



All Organic Formulations		
Additives (ppm a.i.)	PCT 1 AcquaCore-Based	PCT 2 HEDP-Based
PBTC	5	5
AcquaCore	5	0
HEDP	0	5
Polymer	10	10
TTA	2	2
PTSA	0.1	0.1

PCT 1 – AcquaCore Based

PCT 2 – HEDP Based

About Solugen

Solugen is a bio-based specialty chemicals manufacturer and supplier whose mission is to decarbonize the chemical industry by revolutionizing the way chemicals are made for use across a variety of markets and applications.

Contact us at waterexpert@solugen.com for more information and pricing of our products and services.