PRODUCT BRIEF • COOLING WATER SYSTEMS

Eliminating Biofilm in Cooling Towers with JC 9465

One of the most underestimated factors in cooling-water treatment — driving fouling, corrosion, scale, and lost heat-transfer efficiency. JC 9465 ROS destroys the biofilm matrix at its source.

6-log
MICROBIAL KILL
IN ~10 SECONDS

>+700 mV
ORP TARGET FOR
BIOFILM-FREE WATER

2.8–2.9 V
OXIDATION POTENTIAL
(VS. 0.94 HYPOCHLORITE)

What biofilm costs you

Once bacteria and algae colonize surfaces and produce EPS, problems compound: **reduced heat-transfer efficiency** (biofilm is a far better insulator than mineral scale), **fouling** of fill, decks, basins, and filtration, **under-deposit and microbiologically influenced corrosion (MIC)**, and **scale nucleation**, as the matrix traps calcium and phosphate and creates crystal-growth sites that would not otherwise exist.

Why chlorine struggles

The EPS acts as a protective shield: it neutralizes and blocks conventional oxidants like chlorine before they can reach the cells beneath. Chlorine can require 30+ minutes to achieve even a 4-log kill on protected populations — and does little to remove the slime layer that keeps regrowth coming back.

OXIDATION POTENTIAL (E°)

REAGENT	VOLTS
JC 9465	2.8–2.9
Ozone	2.07
Chlorine Dioxide	1.57
Hypochlorous Acid	1.49
Hypochlorite	0.94

Higher oxidation potential drives faster, more complete destruction of the EPS matrix.

How JC 9465 works

JC 9465 generates a high concentration of reactive oxygen species (ROS) — led by the hydroxyl radical ion, one of the most powerful oxidants available. The ROS first break down the EPS slime that shields the colony, then rapidly oxidize the exposed cells for a 6-log kill in seconds. Because the protective matrix itself is removed, surfaces stay cleaner longer and regrowth is suppressed — all monitored with a simple ORP meter targeting above +700 mV.

THE PAYOFF IN YOUR TOWER

Restored heat-transfer efficiency • lower corrosion and MIC risk • less under-deposit scale • cleaner fill and basins • lower chemical use.

charles@jenfitch.com • www.jenfitch.com