TECHNICAL DATA SHEET

A 40CT

Oxidizing Chlorine–Bromine Biocide Open Recirculating Cooling Systems

1. PRODUCT DESCRIPTION

A 40CT is a stabilized oxidizing biocide combining chlorine and bromine chemistry for industrial cooling water systems. The product provides broad-spectrum microbiological control against bacteria (including Legionella spp.), algae, fungi, and biofilm formation.

Designed for use in:
• Cooling towers
• Evaporative condensers
• Industrial recirculating cooling systems
• Closed cooling systems (where compatible)

A 40CT performs effectively across alkaline cooling water conditions (pH 7.5–9.0), where bromine chemistry provides improved performance over chlorine alone.

2. MECHANISM OF ACTION

A 40CT acts through oxidation and halogen biocidal activity:

Biocidal Action:
Chlorine and bromine rapidly oxidize microbial cell walls and intracellular components, leading to fast microbial destruction.

Biofilm Control:
The oxidizing chemistry penetrates slime and biofilm layers, reducing biological fouling and improving heat transfer performance.

Residual Protection:
Provides measurable free halogen residual for ongoing microbiological control.

3. APPLICATION & DOSAGE

Method of Application
A 40CT may be fed neat directly from the original container through a chemical metering pump.

Typical Dosage Range
Shock Dose: 100 – 200 ppm (as product)
Maintenance Dose: 20 – 50 ppm
Target Residual: 0.5 – 1.0 ppm free halogen (as Cl_2)

Dosage depends on:
• System volume
• Organic load
• Holding time index
• Level of contamination
• Cooling water conditions

Final dosage must be determined based on microbiological testing and residual monitoring.

Monitoring
• DPD free halogen testing
• Visual inspection for slime and algae
• Microbiological monitoring (if applicable)

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4. TYPICAL PHYSICAL & CHEMICAL PROPERTIES

Appearance: Clear pale yellow liquid
Odor: Characteristic halogen
pH (as supplied): Approx. 13.0
Specific Gravity @ 25°C: Approx. 1.20
Solubility: Completely miscible in water
Flammability: Non-flammable
Flash Point: Not applicable

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5. COMPATIBILITY

Material Compatible with:
• Carbon Steel
• Stainless Steel (304, 316)
• PVC
• HDPE

• Polypropylene
• PTFE

Avoid prolonged contact with strong reducing agents and acids.

Technical Compatible with:
• Temperature > 60 °C
• pH 6 – 9

Compatibility Chart
Chlorine: Compatible
Bromine: Compatible
Isothiazolin: Compatible (alternating program)
Glutaraldehyde: Compatible (alternating program)

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6. PACKAGING

Available in:

25 kg HDPE drums

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7. STORAGE & SHELF LIFE

Store in tightly closed original containers in a cool, dry, well-ventilated area away from direct sunlight. Keep away from acids, reducing agents, and combustible materials.

Recommended storage temperature: 5 – 35°C.
Protect from freezing.

Shelf Life: 24 months under recommended storage conditions.
