CORTEC CORPORATION

Environmentally Safe VpCI®/MCI® Technologies

VpCI®-648

VpCI® ADDITIVES FOR WATER TREATMENT

DESCRIPTION

VpCI®-648 is a water treatment additive designed for corrosion protection of ferrous metals and copper at low dosages in deionized or reverse osmosis water. Based solely on organic components, VpCI®-648 does not contain nitrites or any halogen counter ions. At recommended dosages, VpCI®-648 does not significantly contribute to the conductivity of water systems. VpCI®-648 is intended for water-cooled generator stators but is also applicable to other cooling water systems containing copper or steel where low conductivity is required.

A ferrous-only version, VpCI®-648 FO, is also available.

PACKAGING & STORAGE

VpCI®-648 is available in 5 gallon (19 L) pails, 55 gallon (208 L) drums, liquid totes, and bulk.

To ensure best product performance, store in original packaging, indoors, and out of direct sunlight at 40-100 °F (4-38 °C).

Shelf life: 2 years

FEATURES

- Low conductivity at recommended dosages
- Effective at low concentrations in deionized or reverse osmosis water
- Multi-metal protection
- Does not contain nitrites or halogens
- Low sodium (contributing <2 parts per billion at typical dose)

METALS PROTECTED

- Ferrous Metals
- Copper (not applicable to VpCI®-648 FO)

TYPICAL PROPERTIES

Appearance	Viscous yellow liquid
Flash Point	>203 °F(95 °C)
Density	9.0–9.7 lb/gal (1.08–1.16 kg/L)
pH	9.0-10.5 (neat)

APPLICATION

VpCI®-648 can typically be used for
- Low conductivity applications
- EDM machining
- Plasma arc machining
- Nuclear industry

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GENERAL DOSING GUIDELINES:

VpCI®-648 is typically dosed at 20–50 ppm in low-conductivity water systems, such as deionized water or reverse osmosis water. Using this product in conductive fresh water requires a higher dosage (500–700 ppm).

For long-term protection, additional corrosion protection products should be used. Please contact Cortec® Technical Service for recommendations on your application.

CONSIDERATIONS:

VpCI®-648 does not contain a tracing additive. If a tracer is desired, please consult a Cortec® Technical Service representative. Note that the conductivity may increase by adding a tracing chemical.

CONDUCTIVITY AND PERFORMANCE

VpCI®-648 Dosage (ppm in DI water)	Conductivity (µS/cm)	Corrosion Rate* (Copper)	Corrosion Rate* (Carbon Steel)
0	1.0	0.787 mpy	2.115 mpy
20	5.35	0 mpy	0 mpy
50	13.8	0 mpy	0 mpy

**** Immersion testing performed at 140 °F (60 °C) for 168 hours.***

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