

## OptiGuard™ MCP SERIES All-In-One Treatment

- Complete boiler treatment in a single product
- Blends of precipitating and polymeric sludge conditioning agents
- Excellent deposit control
- Controls oxygen corrosion in feedwater system and boiler
- Neutralizing amine blend provides effective system-wide protection
- Approved for FDA and USDA applications

### DESCRIPTION AND USE

OptiGuard™ MCP Series products are liquid blends of an oxygen scavenger, and internal and condensate treatment components. The internal treatment components include precipitating and dispersing agents. Their formation of inorganic precipitated salts, coupled with polymeric dispersants, results in highly effective deposit control.

OptiGuard MCP Series products are precipitating boiler water treatments in which calcium hardness is removed from the boiler water as calcium phosphate, and magnesium hardness is precipitated as magnesium hydroxide and/or magnesium silicate.

The polymer in OptiGuard MCP Series products is highly effective in preventing the formation of both hardness and metal oxide deposits. Polymeric dispersants are multifunctional. They distort crystal growth and reduce particle size. By altering the surface charge of the suspended particles, the attraction between the boiler tube wall and the particle is significantly reduced.

The polymer in OptiGuard MCP Series products also promotes surface adsorption and distortion of the crystal lattice of deposit particles. This results in significantly reduced scale potential and the cleanest heat transfer surfaces, especially during upsets in control or variations in feedwater hardness.

OptiGuard MCP Series products contain sodium sulfite to control dissolved oxygen corrosion in the pre-boiler and boiler systems. Even with an effective deaerator, sufficient dissolved oxygen can remain in the feedwater to cause serious corrosion damage.

OptiGuard MCP Series products also contain a blend of neutralizing amines. When fed to the boiler, the amines rapidly volatilize with the steam and prevent corrosion by neutralizing carbonic acid in the condensate. Controlled protection at points of initial condensation and in extended areas of complex condensate systems is provided. This reduces corrosion of both iron and copper surfaces, which extends equipment life and increases the efficiency of heat exchange equipment. The return of corrosion products to the boiler is also reduced significantly, reducing the potential for scale formation.

### TREATMENT AND FEEDING REQUIREMENTS

**Feed Point** - OptiGuard MCP Series products must be fed continuously to the deaerator or boiler feedwater.

**Feedrate** - Proper treatment levels for OptiGuard MCP series products depend on many factors specific to a given installation. The products should be used in accordance with the control procedures that GE Betz establishes for a specific application.

**Dilution** - Liquid OptiGuard MCP Series products may be fed neat or diluted to any convenient strength with good quality condensate, demineralized water, or feedwater. If the product is diluted, the day tank should be covered to maintain oxygen scavenger efficacy.

**Equipment** - Chemical feed should be through a 304 or 316 stainless steel injection nozzle which is located on the discharge side of the feedwater pump. Copper alloy fittings and valves should not be used.

#### **GENERAL PROPERTIES**

Physical properties of liquid OptiGuard MCP Series products are shown on the Material Safety Data Sheet, a copy of which is available on request.

#### **PACKAGING INFORMATION**

OptiGuard MCP Series products are available in a wide variety of customized containers and delivery methods. Contact your GE Betz representative for details.

#### **SAFETY PRECAUTIONS**

A Material Safety Data Sheet containing detailed information about each product in this series is available upon request.