Water Technologies & Solutions

fact sheet

OptiSperse* HP54306 and OptiSperse* HP54616

internal treatment (high purity systems)

- Matched products with specific (low/high)
- Outstanding protection against metal oxide deposition and caustic corrosion
- Designed and field proven for high pressure boiler
- Cost-effective program cuts downtime and maintenance
- Provides optimum pH/phosphate control

description and use

OptiSperse HP54306 and OptiSperse HP54616 are aqueous blends of phosphateand polymeric dispersants. The products contain SCP, a synthetic carboxylated polymer, which disperses iron and other metal oxides.

OptiSperse HP54306 and HP54616 may be used alone or in combination, depending on the feedwater quality, to provide optimum pH/phosphate control in high pressure boilers.

typical applications

Hardness is a minor constituent in water of high purity. The major contaminants are typically iron and copper oxides. Iron deposits are very porous; this porosity makes the road to caustic corrosion possible.

As steam escapes through the chimney-shaped deposits, dissolved solids concentrate under the deposit. Hydroxide is the predominant anion. As such, sodium hydroxide can concentrate under the deposit to produce caustic levels of 10% or more. This results in caustic gouging of boiler metal.

OptiSperse HP54306 and HP54616 fight the problem on two fronts. First, its exclusive polymer controls metal oxide deposits. Second, its built-in phosphate buffer neutralizes any free caustic in the boiler water. SUEZ formulates the sodium-to-phosphate ratio required to keep your system within control limits. This combination of chemical mechanisms provides the most effective coordinated phosphate/pH control program available. This treatment buffers the boiler water, preventing localized pH excursions that lead to corrosion of boiler metal (Figure 1).

The other key to SUEZ program effectiveness is our metal oxide-specific polymeric dispersant technology. Our tailored treatment approach uses SCP, synthetic carboxylated polymer, to disperse iron and other metal oxides, maintaining clean heat transfer surfaces. Caustic corrosion is prevented by maintaining a phosphate buffer with coordinated control.

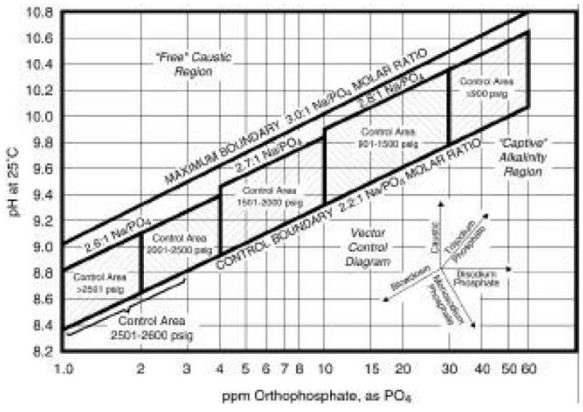

Figure 1: Control diagram for a coordinated phosphate/ pH program.

treatment and feeding requirements

Feed Point - Boiler steam drum via separate chemical feed line.

Feed rate - Sufficient OptiSperse HP54306/ HP54616 should be fed to maintain the recommended boiler phosphate residual. Feed rates depend upon operating pressure, heat transfer rate, feedwater quality, and type of fuel burned.

Dilution - Use good quality condensate, demineralised water, or deaerated boiler feedwater to make a convenient feeding strength. The material may be fed neat (dilution slip stream recommended) or diluted in any proportion. If diluted, mild agitation should be provided.

Equipment - OptiSperse HP54306/HP54616 can be fed using polyolefin tanks with stainless steel piping, pump internals, fittings, and shut-off valves. Relief valves, agitator shaft and propeller should be stainless steel. Consult your SUEZ representative for specific information.

general properties

Physical properties of OptiSperse HP54306/HP54616 are shown on the Material Safety Data Sheet (MSDS), a copy of which is available on request.

packaging information

OptiSperse HP54306/HP54616 is a liquid blend, available in a variety of containers and delivery methods. Contact your SUEZ representative for details.

safety precautions

A Material Safety Data Sheet containing detailed information about this product is available on request.

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