

# OptiSpense\* HP54707

## internal treatment (high purity systems)

- Designed with a specific sodium to phosphate ratio
- Outstanding protection against metal oxide deposition and caustic corrosion
- Designed and field proven for high pressure boilers
- Cost-effective program cuts downtime and maintenance
- Provides optimum pH/phosphate control

### description and use

OptiSpense HP54707 is an aqueous blend of phosphate and polymeric dispersants. The products contain SCP, a synthetic carboxylated polymer, which disperses iron and other metal oxides.

OptiSpense HP54707 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.

OptiSpense HP54707 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).

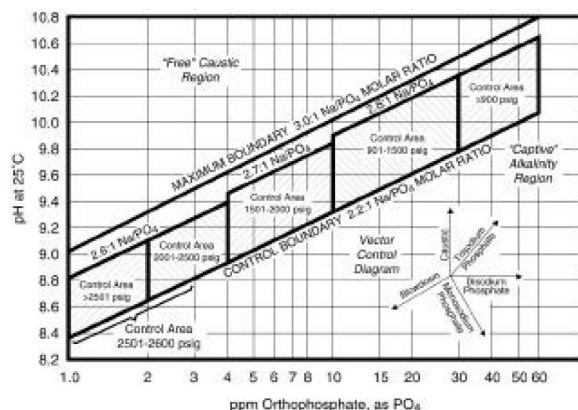


Figure 1: Control diagram for a coordinated phosphate/ pH program.

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.

### treatment and feeding requirements

**Feed Point** - Boiler steam drum via separate chemical feedline.

**Feed Rate** - Sufficient OptiSpense HP54707 should be fed to maintain the recommended boiler phosphate residual. Feed rates depend upon operating pressure,

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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** - OptiSperser HP54707 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 OptiSperser HP54707 are shown on the Material Safety Data Sheet (MSDS), a copy of which is available on request.

## packaging information

OptiSperser HP54707 is a liquid blend, available in a variety of containers and delivery methods. Contact your SUEZ representative for details.

## safety precautions

An MSDS containing detailed information about this product is available upon request.