DeposiTrol* SF502

a discussion in question and answer format

1. what is DeposiTrol SF502?
DeposiTrol SF502 is a non-phosphorous supplement for cooling water programs. DeposiTrol SF502 extends calcium carbonate control, keeping heat exchangers and cooling tower fill clean.

DeposiTrol SF502 is:
- A breakthrough in deposit control technology — only SUEZ has it!
- A non-phosphorous alkylcarboxylated compound having properties of both a surfactant and a polymer.
- A supplement that, when used with SUEZ treatment programs, inhibits calcium carbonate deposits on heat exchanger surfaces and plastic tower fill.

2. what are the benefits of DeposiTrol SF502?

Improve System Efficiency
- Improve heat transfer on metal surfaces
- Provide superior evaporative cooling

Lower Water Consumption
- Reduce makeup water costs
- Lower plant discharge volume
- Reduce wastewater treatment costs

Reduce Operating Costs
- Cut power consumption
- Trim maintenance requirements
- Maintain high heat transfer rates in systems with enhanced chiller tubes

By eliminating existing calcium carbonate scale and preventing future deposit formation, DeposiTrol SF502 increases efficiency of film fill cooling towers. Reduced calcium carbonate scale on heat exchanger surfaces reduces blow down and makeup water use by enabling programs to run at higher cycles.

3. what types of systems can benefit from DeposiTrol SF502?

Programs limited to low cycles
Programs limited to low cycles due to high hardness can benefit by supplementing with DeposiTrol SF502 in order to remove scale, thereby increasing cycles. This in turn helps reduce blow down and make up water use.

Systems that rely on acid for low pH control
Systems that rely on acid for low pH control may be able to feed DeposiTrol SF502 in conjunction with an alkaline product to achieve equal or higher cycles without the use of acid.

4. who should use DeposiTrol SF502?
This product is especially effective for maintaining design efficiency in systems with:
- Evaporative condensers
- High performance tower fill
- Chillers with enhanced tubes

In addition to the systems mentioned above, other plants can benefit from DeposiTrol SF502.
- Anyone with dirty fill in their cooling towers (Who doesn’t?)
- Anyone who desires gradual, on-line cleanup
- Anyone for whom costs of water, chemical treatment, and maintenance are a concern
5. can DeposiTrol SF502 be used in heavily fouled systems?

If used with a heavily-fouled system, be aware of possible fouling of heat exchangers or piping from heavy amounts of loosened deposits. For these systems, it is advisable to contract a company specializing in system cleaning. Otherwise, use lower feed levels of DeposiTrol SF502 to make the loosening process more gradual, and check strainers and filters regularly.

6. how do I know DeposiTrol SF502 works?

Laboratory and field testing to date indicates that DeposiTrol SF502 can increase LSI by 0.5 for systems with a temperature less than 115°F (46°C), and by 0.25 for systems hotter than 115°F (46°C), provided other factors [SiO₂, MgSiO₃, Ca₃(PO₄)₂, etc.] do not override.

Testing has been based on waters having up to 60 ppm (mg/L) silica, 600 ppm (mg/L) calcium, 300 ppm (mg/L) magnesium, 500 ppm (mg/L) M alkalinity, pH 9.0, and 120°F (49°C) maximum water temperature. (This scenario produces an LSI of approximately +2.9!)

Field results have been great. In more than 150 accounts, the “Enhancer” has been successful both as a cleanup and as calcium carbonate prevention.

7. what LSI can be reached?

DeposiTrol SF502 was designed to help programs run at higher LSIs. Some systems see calcium carbonate deposition at lower LSIs than others. Consequently, the amount of LSI elevation achievable with this product without forming calcium carbonate scale will vary.

To estimate an LSI that can be reached, first use knowledge of the limits of alkaline treatment technology in your area. In most cases, for cold systems (<115°F, or <46°C), you should be able to push LSI 0.5 units above current levels, and 0.25 units for hot systems (>115°F, or >46°C). Be aware that DeposiTrol SF502’s ability to extend the solubility of silica, magnesium silicate, etc. has not been tested.

8. how does DeposiTrol SF502 work with alkaline treatment technology?

Alkaline programs will benefit most from DeposiTrol SF502 since they operate at pHs and LSIs where calcium carbonate has a high propensity to precipitate.

If you are having deposition problems with a Dianodic* II, Dianodic III or non-alkaline program, calcium phosphate deposits are most likely forming. Even if calcium carbonate is among the constituents in a deposit from a Dianodic II or Dianodic III program, using DeposiTrol SF502 will not resolve the deposition problem since it does not inhibit calcium phosphate precipitation.

Review the operating parameters of your Dianodic II or Dianodic III program before considering DeposiTrol SF502 as a solution. A switch from Dianodic II or Dianodic III to an alkaline program may provide a better solution, and it may not be necessary to use the DeposiTrol SF502 supplement.

9. how is DeposiTrol SF502 fed and delivered?

DeposiTrol SF502 should be ratio fed with your inhibitor for maximum performance. Good performance can also be obtained by feeding the product independently with a dedicated controller or control loop with feed based upon blowdown. The feed can range from 50-100 ppm (mg/L) as product.

The product does not contain an active that can be measured in the field. As a result, it is important to ensure that accurate product feed is maintained. Overfeed will cause foaming. DeposiTrol SF502 is a liquid blend available in a wide variety of customized containers and delivery methods.

10. when is DeposiTrol SF502 not recommended?

DeposiTrol SF502 is not recommended:

- As a stand-alone treatment
- To handle deposits other than calcium carbonate
- In USDA-regulated accounts

In systems with direct discharge, DeposiTrol SF502 may be used with caution. Be sure to refer to the Material Safety Data Sheet (MSDS) for toxicity information.

Because of its surfactant-type properties, foam tendency increases with increased feed. In addition, DeposiTrol SF502 does not contain TTA for copper corrosion inhibition nor any phosphates for mild steel protection.

Important Note:

DeposiTrol SF502 is not designed to inhibit calcium phosphate deposition. If the current program is experiencing deposition problems, conduct a deposit
analysis to determine the form of the deposit. If analysis shows the deposit to be primarily calcium carbonate, adjustment of your current program (cycles and/or inhibitor level) may resolve the problem. Supplementing with DeposiTrol SF502 will help your program inhibit calcium carbonate and remove existing calcium carbonate scale.