COMPETING PRODUCTS

Chlorinated Olefin Products

The original Wilkins, Hammack, Thompson patent emphasized the use of halogenated olefins as Polarized Refrigerant Oil Additives. The Patent even states,

> "The polar organic compound of the present invention contains sufficient polar groups so as to provide regions of the molecule which have high electron densities and other regions which have low electron densities…Essentially any polar compound meeting the foregoing criteria (polarity, ability to remain liquid under operating pressures and temperatures, compatibility with refrigeration system components, and compatibility with refrigerant lubricant installed by manufacturer) can be utilized in the practice of the present invention."
>
> "The preferred polar compounds are the liquid halogenated α-olefins and liquid halogenated paraffins; preferably the halogen is chlorine. With the most preferred group of polar compounds being liquid chlorinated α-olefins"

So, in the teaching of the Patent, Wilkins, et al, emphasize chlorinated olefins as the preferred polar compounds. And in the Experiment documented in the patent, the specific compound used was Chlorowax 500AO, a commercially available Chlorinated α-olefin. So, practitioners interested in replicating this work began using Chlorinated-olefins to save energy.

Wilkins noted that a final formulation would require a "stabilizer" of "buffer":

> "When using halogen containing polar compounds, it is preferred to use a stabilizer to prevent free halogen from forming if there is any moisture in the system. The presence of free halide can cause corrosion problems. Suitable stabilizers for chlorides are commercially available and are typically buffers which will combine with the halogen to render it benign."[1]

The problem with Chlorine, in particular, is that when moisture is encountered anywhere in the system, Chlorine will form Hydrochloric acid, which will destroy system components.

Products are still out on the market which contain Chlorine.

ProaTEQ sold and installed by Georgetown Utilities HAS NO CHORINE and never has. It cannot damage customer equipment. Neither EnSaTEQ, nor Georgetown utilities, has ever had a damage claim against it in connection with the proper use of ProaTEQ.

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[1] Wilkins, op cit, column 4, lines 49-54.

Alcohol-Based Products

Some oil additives are alcohol based. They mimic the early effects of PROAs but the charade is short-lived. An alcohol-based additive will remove the boundary layer temporarily but provides no monolayer coating (an essential performance feature of ProaTEQ) to prohibit the boundary layer from re-forming after 30 to 60 days.

The alcohol-based additives are long-run ineffective. Only a true PROA like ProaTEQ penetrates the boundary layer, removes it, and forms a tight one-molecule thick monolayer on the metal components to prohibit oil fouling from re-occurring.