SUMMARY OF THE INVENTION

[0009] One ~~aspect~~ embodiment of the ~~invention~~ present disclosure is a method for inhibiting fouling and corrosion of equipment in an ethylene production plant. The method comprises injecting a neutralizing agent into a dilution steam system, the neutralizing agent having a volatility index of less than 0.005, and a pKa of about 12 to about 20. The neutralizing agent further being substantially sodium-free and when the neutralizing agent is a choline salt, the choline salt is stabilized by about 2 wt.% to about 10 wt.% alkanolamine.

[0010] Another ~~aspect~~ embodiment of the ~~invention~~ present disclosure is a method for inhibiting fouling and corrosion of equipment in a styrene production plant. The method comprises injecting a neutralizing agent into a dilution steam system, the neutralizing agent having a volatility index of less than 0.005 and a pKa of about 12 to about 20, and being substantially sodium-free.

[0010a] In an aspect, the present disclosure provides a method for inhibiting fouling and corrosion of equipment in an ethylene or styrene production plant. The method comprises injecting a neutralizing agent into a dilution steam system, the neutralizing agent having a volatility index of less than 0.005, and a pKa of about 12 to about 20, and being substantially sodium-free, wherein when the neutralizing agent is a choline salt, the choline salt is stabilized by about 2 wt.% to about 10 wt.% alkanolamine.

[0011] Yet another aspect is a method for inhibiting fouling and corrosion of equipment in an ethylene or styrene production plant. The method comprises injecting a neutralizing agent into a dilution steam system. The neutralizing agent comprises a choline salt stabilized by about 2 wt.% to about 10 wt.% alkanolamine.

[0012] A further aspect of the ~~invention~~ present disclosure is a stabilized choline composition that comprises a choline salt, a solvent, and from about 2 wt.% to about 10 wt.% of an alkanolamine based on the total weight of the composition.

[0013] Other objects and features will be in part apparent and in part pointed out hereinafter.

BRIEF DESCRIPTION OF THE DRAWINGS

[0014] Figure 1 is a schematic of an olefin dilution steam system.

[0015] Figure 2 is a schematic of a styrene dilution steam system.

[0016] Figure 3 is a graph of pH versus concentration of neutralizing agent for 100 % w/w monoethanolamine (MEA), 66.4 % w/w MEA, 39.6 % w/w choline hydroxide and 12 % w/w MEA, 41 % w/w choline hydroxide and 9 % w/w MEA, 42.3 % w/w choline hydroxide and 6 % w/w MEA, and 43.4 % w/w choline hydroxide and 3 % w/w MEA.