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(54) Title: ADDITIVE COMPOSITION FOR REDUCING COKE AND INCREASING DISTILLATE DURING PYROLYSIS OF A FEEDSTOCK, AND METHOD OF USE THEREOF

(57) Abstract: The present invention relates to a coke reducing additive composition capable of simultaneously (a) reducing coke formation and (b) increasing distillate yield during pyrolysis of a feedstock in the presence of a plastic material, wherein the feedstock is a vacuum residue (VR), plastic material is a waste plastic material or an olefin polymer (OP) material, or a mixture thereof, and the coke reducing additive composition comprises a naphthenate, preferably a calcium naphthenate, or sodium naphthenate, or a mixture thereof, and to a method of employing the coke reducing additive composition, and to a method of use of the coke reducing additive composition of the present invention. Particularly, in another embodiment, the present invention relates to a coke reducing additive composition capable of simultaneously (a) reducing formation of coke deposits on walls of the processing unit; and (b) reducing fouling caused due to deposits of coke products on walls of the processing unit during pyrolysis of a feedstock in the presence of a plastic material, wherein the feedstock is a vacuum residue (VR), plastic material is a waste plastic material or an olefin polymer (OP) material, or a mixture thereof, and the coke reducing additive composition comprises a naphthenate, preferably a calcium naphthenate, or sodium naphthenate, or a mixture thereof, and to a method of employing the coke reducing additive composition, and to a method of use of the coke reducing additive composition of the present invention. Particularly, in yet another embodiment, the present invention relates to a method to convert a waste plastic into useful chemical commodity.

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