Claims:

1. A method for simultaneously:
   (a) reducing coke formation;
   (b) increasing yield of distillate;
   (c) converting a waste plastic into a useful chemical commodity;
   (d) reducing formation of coke deposits on walls of the processing unit; and
   (e) reducing fouling caused due to deposits of coke products on walls of the processing unit,

   during a pyrolytic or cracking processing of a material comprising:
   (i) a combination of a feedstock in the presence of a plastic material;

   wherein the method comprises a step of adding a coke reducing additive composition comprising sodium naphthenate, calcium naphthenate, or a mixture thereof in a processing unit containing the feedstock in the presence of the plastic material.

2. The method as claimed in **claim 1**, wherein the feedstock is selected from the group comprising crude oil, vacuum residue, atmospheric residue, asphalted pitch, shale oil, coal tar, clarified oil, residual oils, heavy waxy distillates, foots oil, slop oil or mixture thereof, preferably the feedstock is a vacuum residue feedstock, wherein the vacuum residue feedstock comprises asphaltene.

3. The method as claimed in **claim 1 or 2**, wherein the plastic material is selected from a group comprising a waste plastic material, an olefin polymer (OP), a low density polyethylene (LDPE), a high density polyethylene (HDPE), a mix plastic, a polystyrene, a polypropylene, a polyethylene, or a mixture thereof, preferably the plastic material is a waste plastic material, an olefin polymer (OP), or a mixture thereof, wherein the olefin polymer (OP) comprises a polypropylene plastic (PP) material.

4. The method as claimed in any one of the preceding **claims 1 to 3**, wherein the coke reducing additive composition is added to the processing unit in an amount varying from:
   a) about 1 ppm to about 5000 ppm,
   b) about 5 ppm to about 3000 ppm,
   c) about 5 ppm to about 2000 ppm,
   d) about 5 ppm to about 1000 ppm, or
   e) about 5 ppm to about 500 ppm.

5. A use of a coke reducing additive composition for simultaneously:

(a) reducing coke formation;

(b) increasing yield of distillate;

(c) converting a waste plastic into a useful chemical commodity;

(d) reducing formation of coke deposits on walls of the processing unit; and

(e) reducing fouling caused due to deposits of coke products on walls of the processing unit,

during a pyrolytic or cracking processing of a material comprising:

(i) a combination of a feedstock in the presence of a plastic material;

wherein the use comprises a step of treating the feedstock in the presence of the plastic material with a coke reducing additive composition comprising sodium naphthenate, calcium naphthenate, or a mixture thereof in a processing unit containing the feedstock in the presence of the plastic material.

6. The use as claimed in **claim 5**, wherein the feedstock is selected from the group comprising crude oil, vacuum residue, atmospheric residue, asphalted pitch, shale oil, coal tar, clarified oil, residual oils, heavy waxy distillates, foots oil, slop oil or mixture thereof, preferably the feedstock is a vacuum residue feedstock, wherein the vacuum residue feedstock comprises asphaltene.

7. The use as claimed in **claim 5 or 6**, wherein the plastic material is selected from a group comprising a waste plastic material, an olefin polymer (OP), a low-density polyethylene (LDPE), a high-density polyethylene (HDPE), a mix plastic, a polystyrene, a polypropylene, a polyethylene, or a mixture thereof, preferably the plastic material is a waste plastic material, an olefin polymer (OP), or a mixture thereof, wherein the olefin polymer (OP) comprises a polypropylene plastic (PP) material.

8. The use as claimed in any one of the preceding **claims 5 to 7**, wherein the coke reducing additive composition is used in an amount varying from:

a) about 1 ppm to about 5000 ppm,

b) about 5 ppm to about 3000 ppm,

c) about 5 ppm to about 2000 ppm,

d) about 5 ppm to about 1000 ppm, or

e) about 5 ppm to about 500 ppm.

9. A method for:

(a) reducing coke formation;

(b) increasing yield of distillate;

(c) converting a waste plastic into a useful chemical commodity;

(d) reducing formation of coke deposits on walls of the processing unit; and

(e) reducing fouling caused due to deposits of coke products on walls of the processing unit,

by pyrolysis of a plastic material, wherein the method comprises adding a coke reducing additive composition comprising sodium naphthenate, calcium naphthenate, or a mixture thereof in a processing unit containing the plastic material in the presence of a feedstock.