CLAIMS

1. A method of purifying a recycled or renewable organic material (10), wherein the recycled or renewable organic material comprises more than 20 ppm chlorine,

comprising the steps of

(a) providing the recycled or renewable organic material (10);

(b) purifying the organic recycled or renewable organic material (10) by (b1) heating (20,40) the recycled or renewable organic material at a temperature of 200 to 300°C in the presence of an aqueous solution of alkaline metal hydroxide (30) to obtain a purified recycled or renewable organic material (31,51) comprising less than 50% of the chlorine content of the recycled or renewable organic material (10) before provided in step (a), and

(c) hydrotreating (60) the purified recycled or renewable organic material (31,51) in a presence of a hydrotreating catalyst;

to obtain purified hydrotreated recycled or renewable organic material (61) comprising less than 50% of the chlorine content of the recycled or renewable organic material before provided in step (a).

2. A method as claimed in claim 1, wherein the residence time is from 1 to 180 min, preferably from 2 to 90 min, more preferably from 5 to 60 min in step (b1).

3. A method as claimed in any one of claims 1 to 2, wherein the alkaline metal hydroxide is selected from a group consisting of KOH, LiOH, NaOH and mixtures thereof, preferably the alkaline metal hydroxide is NaOH.

4. A method as claimed in any one of claims 1 to 3, wherein the concentration of the aqueous alkaline metal hydroxide is from 0.1 to 10.0 mol/L and the ratio of the aqueous solution of alkaline metal hydroxide to the treated recycled or renewable organic is more than 0.1 g/g, preferably from 0.5 to 1.5 g/g.

5. A method as claimed in any one of claims 1 to 4, wherein hydrotreating step (c) takes place under continuous hydrogen flow, with a H2/feed ratio from 500 to 2000 n-L/L, preferably from 800 to 1400 n-L/L.

6. A method as claimed in any one of claims 1 to 5, wherein the hydrotreating catalyst in step (c) is a supported Pd, Pt, Ni, NiW, NiMo or CoMo catalyst and the support is zeolite, zeolite-alumina, alumina and/or silica, preferably NiW/Al_2O_3, $NiMo/Al_2O_3$ or $CoMo/Al_2O_3$.

7. A method as claimed in any of claims 1 to 6, wherein step (c) is ac-

complished by (c1) hydrodeoxygenating (HDO) the heat treated recycled or renewable organic material fraction in a presence of a HDO catalyst at a temperature from 270 to 380°C under pressure from 4 to 20 MPa and under continuous hydrogen flow to obtain purified recycled or renewable organic material comprising less than 50%, preferably less than 30% of the original chlorine content of the recycled or renewable organic material provided in step (a).

8. A method as claimed in claim 7, wherein in step (c1) the HDO catalyst is sulfided NiW, sulfided NiMO- or sulfided CoMo- catalyst.

9. A method as claimed in any one of claim 1 to 8, wherein the recycled or renewable organic material is selected from a group consisting of plant based fats and oils, animal based fats and oils, fossil waste-based oils, waste oils, algal oils and microbial oils; in particular from a group consisting of used lubricating oil (ULO), waste plastic pyrolysis oil (WPPO), end-life-tire pyrolysis oil (ELTPO)more particularly the recycled or renewable organic material is WPPO, ELTPO or ULO.

10. A process for producing recycled or renewable hydrocarbons, comprising steps of

(x) producing hydrocarbons from a recycled or renewable organic material as claimed in any one of claims 1 to 9, and

(y) subjecting the purified recycled or renewable organic material to a oil refinery conversion process (70), wherein the oil refinery conversion process comprises altering the molecular weight of the feed, removal of heteroatoms from the feed, altering the degree of saturation of the feed, rearranging the molecular structure of the feed, or any combination thereof to obtain at least one recycled or renewable hydrocarbon.