C L A I M S

1. Process for the recovery of aliphatic hydrocarbons from a liquid hydrocarbon feedstock stream comprising aliphatic hydrocarbons, heteroatom containing polar components and optionally aromatic hydrocarbons, wherein the liquid hydrocarbon feedstock stream comprises a liquid product produced by the pyrolysis of plastic waste, and wherein the heteroatom containing polar components comprise heteroatom containing organic compounds and the heteroatom containing organic compounds are synthetic compounds, said process comprising the steps of:

a) mixing the liquid hydrocarbon feedstock stream with a solvent resulting in a liquid mixture;

b) cooling the liquid mixture obtained in step a) to a temperature in the range of from +5 °C to -30 °C to obtain wax crystals in the mixture;

c) separating wax crystals from the cooled liquid mixture obtained in step b) to produce a wax comprising aliphatic hydrocarbons and a dewaxed liquid mixture comprising solvent, heteroatom containing polar components and optionally aromatic hydrocarbons;

d) separating solvent from the liquid mixture obtained in step c) and optionally recycling the separated solvent to step a).

2. Process according to claim 1, wherein the weight ratio of aliphatic hydrocarbons having a boiling point of from 30 to 300 °C to aliphatic hydrocarbons having a boiling point of from greater than 300 to 600 °C in the liquid hydrocarbon feedstock stream is of from 99:1 to 1:99.

3. Process according to claim 1 or 2, wherein the solvent is an organic solvent.

4. Process according to claim 3, wherein the organic solvent is an aliphatic hydrocarbon, an aromatic hydrocarbon, a ketone or any mixture thereof, preferably a ketone.

5. Process according to any one of the preceding claims, wherein the weight ratio of liquid hydrocarbon feedstock stream to solvent in step a) is of from 1:0.1 to 1:10, preferably of from 1:0.5 to 1:5, more preferably of from 1:1 to 1:3.

6. Process according to any one of the preceding claims, wherein in step b) the liquid mixture is cooled to a temperature in the range of from -10 to -30 °C, preferably -15 to -25 °C.

7. Process according to any one of the preceding claims, wherein the liquid hydrocarbon feedstock stream comprises a liquid product produced by the pyrolysis of mixed plastic waste.

8. A process for the recovery of aliphatic hydrocarbons from plastics, said process comprising the steps of:

i) converting the plastics by pyrolysis to a hydrocarbon product comprising a gas phase and a liquid phase;

ii) separating at least a portion of the hydrocarbon product into a hydrocarbon gas stream and a hydrocarbon liquid stream;

iii) subjecting at least a portion of the hydrocarbon liquid stream to the process of any one of claims 1-7.

9. Process for steam cracking a hydrocarbon feed, comprising the steps of:

obtaining a wax comprising aliphatic hydrocarbons from a liquid hydrocarbon feedstock stream in a process according to any one of claims 1-8; and

steam cracking a hydrocarbon feed, wherein the hydrocarbon feed comprises aliphatic hydrocarbons from the wax obtained in the preceding step.