CLAIMS

1. A method for processing liquefied waste polymers (LWP), the method comprising the following steps:
   a) providing an LWP stream comprising diolefins and naphtha,
   b) subjecting the LWP stream to hydrotreatment reaction conditions comprising temperature 120-210 °C and pressure 1-50 barg in the presence of hydrogen and one or more hydrotreatment catalysts to produce diolefin depleted LWP stream and
   c) distilling the diolefin depleted LWP stream to obtain one or more distillates comprising at least a naphtha fraction boiling below 180 °C at atmospheric pressure and a distillation bottom.
2. The method according to claim 1 comprising
   d) subjecting the naphtha fraction of step c) to hydroprocessing reaction conditions comprising temperature 280-350 °C and pressure 20-100 barg, preferably 20-50 barg in the presence of hydrogen and one or more hydroprocessing catalysts to produce hydrogenated naphtha.
3. The method according to claim 1 wherein the hydrotreatment reaction conditions comprise LHSV 1-5 h^{-1}, preferably 4-4.5 h^{-1}.
4. The method according to any one of claims 1-3 wherein the one or more hydrotreatment catalysts are selected from CoMo and NiMo.
5. The method according to claim 2 wherein the hydroprocessing reaction conditions comprise LHSV 1–5 h^{-1}, and hydrogen/hydrocarbon ratio 100–900 Nm^3/m^3.
6. The method according to any one of claims 2-5 wherein the one or more hydroprocessing catalysts are selected from CoMo and NiMo.
7. The method according to any one of claims 2-6 comprising feeding the hydrogenated naphtha to a steam cracker.
8. The method according to any one of claims 1-7 comprising admixing the distillation bottom and crude oil to form an admixture.

9. The method according to claim 8 comprising feeding the admixture to a crude oil distillation unit.

10. The method according to any one of claims 1-9 wherein the one or more distillates comprise a middle fraction boiling between 180 °C and 360 °C at atmospheric pressure.

11. The method according to claim 10 comprising feeding the middle fraction to a crude oil distillation unit.

12. The method according to any one of claims 1-11 wherein the LWP is selected from waste plastic pyrolysis oil and hydrothermally liquefied waste plastic oil or mixtures thereof.

13. The method according to any one of claims 1-12 wherein the LWP comprises waste plastic pyrolysis oil.