CLAIMS

1. A method for upgrading polymer waste-based material, the method comprising:

providing a polymer waste-based feedstock comprising liquefied waste plastic (LWP) or a fraction thereof and/or end-life-tires pyrolysis oil (ELTPO) or a fraction thereof (step A),

providing a crude oil-derived feedstock (step B),

blending the polymer waste-based feedstock, the crude oil-derived feedstock, and optionally a further feed material, to provide a feed mixture (step C), wherein the blending in step (C) is carried out such that the feed mixture contains at least 0.5 wt.-% of the polymer waste-based feedstock,

hydrotreating the feed mixture at hydrodesulphurisation conditions to provide a hydrotreated material (step D),

distilling the hydrotreated material (step E) to obtain at least a jet fuel component having a final boiling point (FBP) in the range of from 190°C to 300°C and a residue fraction.

2. The method according to claim 1, wherein the polymer waste-based feedstock provided in step (A) is or comprises a polymer waste-based oil or a fraction thereof, preferably a fraction of polymer waste-based oil.

3. The method according to claim 1 or 2, wherein the polymer waste-based feedstock provided in step (A) is liquefied waste plastics (LWP) or a fraction thereof, in particular waste plastics pyrolysis oil (WPPO) or a fraction thereof, or end-life tires pyrolysis oil (ELTPO) or a fraction thereof.

4. The method according to any one of the preceding claims, wherein the polymer waste-based feedstock provided in step (A) is a liquefied and pre-treated material which has been subjected to pre-treatment after liquefaction.

5. The method according to any one of the preceding claims, wherein the polymer waste-based feedstock provided in step (A) is or comprises a fraction of end-life tires pyrolysis oil (ELTPO).

6. The method according to any one of the preceding claims, wherein the polymer waste-based feedstock provided in step (A) is a middle distillate range feedstock having a boiling range (from initial boiling point, IBP, to final boiling point, FBP) in the range of from 100°C to 410°C.

7. The method according to any one of the preceding claims, wherein the hydrotreatment in step (D) is carried out at a hydrogen partial pressure of at most 100 bar, preferably at most 90 bar, at most 80 bar, at most 70 bar, at most 60 bar, at most 55 bar, or at most 50 bar.

8. The method according to any one of the preceding claims, wherein the hydrotreatment in step (D) is carried out in the presence of a catalyst and the catalyst is a hydrodesulphurisation catalyst.

9. The method according to any one of the preceding claims, wherein the blending in step (C) is carried out such that the feed mixture contains at most 50.0 wt.-% of the polymer waste-based feedstock, preferably at most 40.0 wt.-%, at most 30.0 wt.-%, or at most 25.0 wt.-%.

10. The method according to any one of the preceding claims, wherein the polymer waste-based feedstock is or comprises a fraction of liquefied waste plastics (LWP), in particular a fraction of waste plastics pyrolysis oil (WPPO), or a fraction of end-life tires pyrolysis oil (ELTPO).

11. The method according to any one of the preceding items, wherein the polymer waste-based feedstock has a sulphur content of from 500 to 40000 mg/kg.

12. A jet fuel component obtainable by the method according to any of the claims 1 to 11, wherein the jet fuel component has a final boiling point (FBP) in the range of from 190°C to 300°C.

13. The jet fuel component according to claim 12, wherein the jet fuel component has a sulphur content in the range of from 0 mg/kg to 3000 mg/kg, preferably from 0 mg/kg to 2000 mg/kg, 0 mg/kg to 1000 mg/kg, 0 mg/kg to 500 mg/kg, 0 mg/kg to 300 mg/kg, 0 mg/kg to 100 mg/kg, 0 mg/kg to 60 mg/kg, 0 mg/kg to 50 mg/kg, 0 mg/kg to 20 mg/kg, 0 mg/kg to 20 mg/kg, or 0 mg/kg to 10 mg/kg.

14. The jet fuel component according to claim 12 or 13, wherein the jet fuel component has a total gum content measured in accordance with IP540 in the range of from 0.2 to 20.0, preferably from 0.5 to 15.0, 0.5 to 12.0, 0.5 to 10.0, 1.0 to 8.0, 1.5 to 6.0 or 2.0 to 4.0.

15. A use of the jet fuel component according to any one of claims 12 to 14 for producing a fuel.