crude tall oil) to hydroprocessing (i.e. treatment with hydrogen gas) using a catalyst. Hydroprocessing chemically alters compounds in the feedstock; heteroatoms (e.g. sulfur and oxygen) can be removed from feedstock compounds and unsaturated compounds can be hydrogenated.

As compared to conventional petrodiesel, the composition of the invention has a low content of polycyclic aromatic hydrocarbons (no more than 2 mass% of C_{7-20} polycyclic aromatics). Also, the amount of monoaromatic hydrocarbons relative to the total amount of aromatic hydrocarbons is higher for the present composition than for petrodiesel. The composition is thus useful for reducing the polyaromatic hydrocarbon content of a fuel and increasing the proportion of monoaromatic hydrocarbons. This is beneficial in terms of enhancing combustion and decreasing soot emissions.

A further advantage of the present composition over known biofuels is that, due to the amounts of the various hydrocarbons, the density and mass-based energy content of the composition are such that its volume-based energy content is similar to that of petrodiesel.

Another embodiment of the invention is a method of producing a composition as defined above, the method comprising the steps of hydroprocessing a biological feedstock using one or more catalysts and fractionating the product of the hydroprocessing step. As mentioned above, the ability to produce the composition of the invention from a biological feedstock enables the composition to be used as a renewable fuel component.

8. A composition according to any preceding claim, wherein the cycloalkanes are C_{8-19} cycloalkanes.

9. A composition according to any preceding claim, which comprises no more than 1 mass% of polyaromatic hydrocarbons.

10. A composition according to any preceding claim, which comprises no more than 2 mass% of alkenes.

11. A composition according to any preceding claim, which has a density of 795-830 kg/m^3, as measured at 15°C by the method of the EN ISO 12185 Standard.

12. A composition according to any preceding claim, which has a lower heating value of 42.0-45.0 MJ/l, as measured using the method of the DIN 51900 Standard.

13. A composition according to any preceding claim, which has a cetane number of at least 55, as measured using the method of the EN ISO 5165 Standard.

14. A method of producing a composition as defined in any preceding claim comprising the steps of:

(i) hydroprocessing a biological feedstock using one or more catalysts; and

(ii) fractionating the product of step (i).

15. A method according to Claim 14, wherein the biological feedstock comprises a vegetable oil and/or an animal fat.

16. A method according to Claim 14, wherein the biological feedstock comprises at least 15 mass% of C_{12-18} fatty acids,