transesterification of triglycerides contained in vegetable oils (e.g. soybean oil). This yields a mixture of fatty acid alkyl esters (e.g. fatty acid methyl ester (FAME)). Biodiesel can also be produced from animal fats (e.g. tallow).

An object of the present invention is to provide a renewable hydrocarbon composition which is useful as a fuel component.

Summary of the Invention

In one aspect, there is provided a composition comprising 8-30 mass% of C_{4-12} linear alkanes, 20-50 mass% of C_{4-12} branched alkanes, 25-60 mass% of C_{5-12} cycloalkanes, 1-25 mass% of C_{6-12} aromatic hydrocarbons, no more than 1 mass% of alkenes, and no more than 0.5 mass% in total of oxygen-containing compounds; wherein the total amount of C_{4-12} alkanes is 40-70 mass%, and the total amount of C_{4-12} alkanes, C_{5-12} cycloalkanes and C_{6-12} aromatic hydrocarbons is at least 95 mass%; and wherein the amounts are based on the mass of the composition.

A first embodiment of the present invention is a composition comprising 8-30 mass% of C_{4-12} linear alkanes, 5-50 mass% of C_{4-12} branched alkanes, 25-60 mass% of C_{5-12} cycloalkanes, 1-25 mass% of C_{6-12} aromatic hydrocarbons, no more than 1 mass% of alkenes, and no more than 0.5 mass% in total of oxygen-containing compounds; wherein the total amount of C_{4-12} alkanes is 40-80 mass%, and the total amount of C_{4-12} alkanes, C_{5-12} cycloalkanes and C_{6-12} aromatic

hydrocarbons is at least 95 mass%; and wherein the amounts are based on the mass of the composition.

The above composition has a high content of hydrocarbons and a low content of oxygen and oxygen-containing compounds (oxygenates). In particular, the composition contains no ester compounds or a negligible amount of ester compounds. The composition also has a good stability. The total hydrocarbon content is comparable to that of petroleum-derived fuels. This makes the composition highly suitable for use as a petrofuel replacement or a biofuel component to be blended with a petrofuel. The composition is

~~AMENDMENTS UNDER ART. 34 PCT~~

Claims

1. A composition comprising 8-30 mass% of C_{4-12} linear alkanes, ~~5~~20-50 mass% of C_{4-12} branched alkanes, 25-60 mass% of C_{5-12} cycloalkanes, 1-25 mass% of C_{6-12} aromatic hydrocarbons, no more than 1 mass% of alkenes, and no more than 0.5 mass% in total of oxygen-containing compounds;

wherein the total amount of C_{4-12} alkanes is 40-~~80~~70 mass%, and the total amount of C_{4-12} alkanes, C_{5-12} cycloalkanes and C_{6-12} aromatic hydrocarbons is at least 95 mass%; and

wherein the amounts are based on the mass of the composition.

2. A composition according to Claim 1, wherein the amount of C_{4-12} linear alkanes is 10-20 mass%.

3. A composition according to Claim 1 or Claim 2, wherein the amount of C_{4-12} branched alkanes is 20-40 mass%.

4. A composition according to any preceding claim, wherein the amount of C_{5-12} cycloalkanes is 30-50 mass%.

5. A composition according to any preceding claim, wherein the amount of C_{6-12} aromatic hydrocarbons is 2-15 mass%.