However, generally speaking, the possibility of depressing the pour point of a product derived from a plant or animal oil in order to enable the use thereof in cold weather depends on the nature and the properties of this product. Consequently, there is a need to be able to improve a mixture of fatty acid methyl esters derived from castor oil so as to enable the use thereof in cold weather.

SUMMARY

In an aspect, there is provided a composition comprising:

- at least 95% by weight of a mixture of castor oil fatty acid methyl esters containing 10-undecylenic acid and methyl ricinoleate;
- a pour point depressant additive;

the pour point of the composition being less than or equal to 0°C according to standard ASTM D97, wherein the pour point depressant additive is an acrylic polymer dissolved in an oil.

There is provided a composition comprising:

- at least 95% by weight of a mixture of castor oil fatty acid methyl esters;
- a pour point depressant additive;

the pour point of the composition being less than or equal to 0°C.

According to one embodiment, the pour point of the composition is less than or equal to -5°C, preferably less than or equal to -9°C.

According to one embodiment, the mixture of castor oil fatty acid methyl esters has an iodine number of 100 to 120 g / 100 g and comprises, in proportions by weight:

- from 5 to 20%, preferably from 8 to 12%, of methyl stearate;
- from 20 to 40%, preferably from 25 to 35%, of methyl oleate;
- from 30 to 50%, preferably from 35 to 45%, of methyl linoleate;
- less than 10%, preferably less than 8.5%, of methyl palmitate;
- from 1.5 to 4%, preferably from 2 to 3%, of methyl ricinoleate;
- from 0.4 to 1.5%, preferably from 0.6 to 1%, of 10-undecylenic acid.

According to one embodiment, the composition comprises a proportion by weight of pour point depressant additive of 1 to 2%, preferably 1.2 to 1.8%.

According to one embodiment, the pour point depressant additive is an acrylic polymer (preferably in accordance with the general formula presented below) dissolved in an oil, the proportions preferably being from 60 to 100 parts of acrylic polymer per 15 to 40 parts of oil.

According to one embodiment, the oil is a paraffinic distillate.

According to one embodiment, the additive has:

- a viscosity at 100°C according to standard ASTM D445 of 200 to 500 mm^2/s, preferably 300 to 400 mm^2/s;
- a pour point according to standard ASTM D97 of less than or equal to -30°C, preferably less than or equal to -36°C;

CLAIMS

1. A composition comprising:
- at least 95% by weight of a mixture of castor oil fatty acid methyl esters containing 10-undecylenic acid and methyl ricinoleate;
- a pour point depressant additive;

the pour point of the composition being less than or equal to 0°C according to standard ASTM D97, wherein the pour point depressant additive is an acrylic polymer dissolved in an oil.

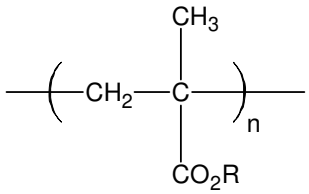
2. The composition as claimed in claim 1, the pour point of which is less than or equal to -5°C, preferably less than or equal to -9°C.

3. The composition as claimed in claim 1 or 2, wherein the mixture of castor oil fatty acid methyl esters has an iodine number of 100 to 120 g / 100 g and comprises, in proportions by weight:
- from 5 to 20%, preferably from 8 to 12%, of methyl stearate;
- from 20 to 40%, preferably from 25 to 35%, of methyl oleate;
- from 30 to 50%, preferably from 35 to 45%, of methyl linoleate;
- less than 10%, preferably less than 8.5%, of methyl palmitate;
- from 1.5 to 4%, preferably from 2 to 3%, of methyl ricinoleate;
- from 0.4 to 1.5%, preferably from 0.6 to 1%, of 10-undecylenic acid.

4. The composition as claimed in one of claims 1 to 3, comprising a proportion by weight of pour point depressant additive of 1 to 2%, preferably 1.2 to 1.8%.

5. The composition as claimed in one of claims 1 to 4, wherein the pour point depressant additive has proportions of 60 to 100 parts of acrylic polymer per 15 to 40 parts of oil.

6. The composition as claimed in one of claims 1 to 5, wherein the acrylic polymer is of formula:



wherein n is an integer preferably from 200 to 2000, and each R represents a C1 to C22 alkyl group.

7. The composition as claimed in claim 5 or 6, wherein the oil is a paraffinic distillate.

8. The composition as claimed in one of claims 1 to 7, wherein the additive has:

- a viscosity at 100°C according to standard ASTM D445 of 200 to 500 mm^2/s, preferably 300 to 400 mm^2/s;
- a pour point according to standard ASTM D97 of less than or equal to -30°C, preferably less than or equal to -36°C;
- an acid number according to standard ASTM D974 of less than or equal to 0.6 mg KOH/g, preferably less than or equal to 0.5 mg KOH/g.

9. The use of the composition as claimed in one of claims 1 to 8 as lubricant, concrete release agent, degreasing agent or cleaning agent.