

UNITED STATES PATENT OFFICE

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OIL COMPOSITION

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12 Claims. (Cl. 196—151)

This invention relates to an oil composition and more particularly to an oil composition having improved oiliness.

Pennsylvania oils and their derivatives possess a high degree of oiliness. Solvent refined oils, and oils derived from a non-paraffinic base, such as the naphthenic or asphaltic base oils of California and Russia, are relatively deficient in oiliness. We have discovered that the oiliness of these latter oils may be improved by adding proto oil thereto. The proto oil should be added in amount and potency sufficient to appreciably increase the oiliness of the deficient oil. For example, additions of up to about 10% of proto oil will give this effect without substantial change in the viscosity of the deficient oil. Larger amounts of proto oil may be added, accompanied by increase in viscosity.

Proto oil is the residue obtained by exhaustively extracting a Pennsylvania residuum with acetone. The physical characteristics of the proto oil and the residuum from which it is obtained are as follows:

	Proto oil	Residuum
Viscosity Saybolt at 100° F.....	9095 sec.	2200 sec.
Viscosity Saybolt at 210° F.....	452 sec.	150 sec.
Gravity.....	25.7	25.6
Flash point.....	655° F.	540° F.
Fire point.....	720° F.	620° F.

The degree of oiliness may be determined by means of the Sperry-Cammen Adher-o-scope, which utilizes a thin metal band of known weight and constant dimensions, to which is applied an oil film. The band is then placed on a disc and rotated at several thousand r. p. m. at a controlled temperature and humidity for a standard period of time, after which the band is removed and weighed. The amount of oil adhering thereto is a function of the oiliness.

By the expression "oil deficient in oiliness" as used in the specification and claims, we mean an oil which has poor adhesive capacity to metallic surfaces as compared with that possessed by a Pennsylvania lubricating oil. When a Pennsylvania lubricating oil with a Saybolt viscosity of 57 seconds is applied to the band, with rotation at 6,000 R. P. M. for 15 minutes at 210° F., about 5.65 milligrams remain on the band. Oils in which a substantially lesser number of milligrams remains are deficient in oiliness according to this invention.

The following examples illustrate the effect of

the addition of various amounts of proto oil to a Texas pale oil, when tested under the same conditions as described above for the Pennsylvania oil:

	Mg. oil left on band
Texas pale oil S.A.E. 20.....	2.32
Texas pale oil S.A.E. 20 plus 1% proto oil..	3.50
Texas pale oil S.A.E. 20 plus 2% proto oil..	3.745
Texas pale oil S.A.E. 20 plus 5% proto oil..	3.85
Texas pale oil S.A.E. 20 plus 10% proto oil..	4.30

It is understood that we are not to be limited to acetone extraction to obtain the proto oil, as any solvent, in which the proto oil is preferentially insoluble, may be used. The above description is by way of illustration and not of limitation, and we are to be limited only by the appended claims in which we have endeavored to claim the inherent novelty.

We claim:

1. A lubricating oil composition comprising a mineral oil deficient in oiliness, and a residue obtained by exhaustively extracting a Pennsylvania residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said mineral oil.
2. A lubricating oil composition comprising a mineral oil distillate deficient in oiliness, and a residue obtained by exhaustively extracting a Pennsylvania residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said distillate.
3. A lubricating oil composition comprising a lubricating oil deficient in oiliness, and a residue obtained by exhaustively extracting a Pennsylvania residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said lubricating oil.
4. A lubricating oil composition comprising a mineral oil derivative deficient in oiliness, and a residue obtained by exhaustively extracting a Pennsylvania residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said derivative.
5. A lubricating oil composition comprising a naphthenic base mineral oil, and a residue obtained by exhaustively extracting a Pennsylvania

residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said mineral oil.

5 6. A lubricating oil composition comprising a solvent refined mineral oil, and a residue obtained by exhaustively extracting a Pennsylvania residuum with a solvent having substantially the same solvent properties upon said residuum as acetone, said residue being present in amount and potency sufficient to appreciably increase the oiliness of said mineral oil.

10 7. A lubricating oil composition in accordance with claim 1 in which said residue is obtained by exhaustively extracting a Pennsylvania residuum with acetone.

15 8. A lubricating oil composition in accordance with claim 2 in which said residue is obtained

by exhaustively extracting a Pennsylvania residuum with acetone.

9. A lubricating oil composition in accordance with claim 3 in which said residue is obtained by exhaustively extracting a Pennsylvania residuum with acetone. 5

10. A lubricating oil composition in accordance with claim 4 in which said residue is obtained by exhaustively extracting a Pennsylvania residuum with acetone. 10

11. A lubricating oil composition in accordance with claim 5 in which said residue is obtained by exhaustively extracting a Pennsylvania residuum with acetone.

12. A lubricating oil composition in accordance with claim 6 in which said residue is obtained by exhaustively extracting a Pennsylvania residuum with acetone. 15

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