United States Patent Office 2,794,037 Patented May 28, 1957

2,794,037

NONSPREADING LUBRICANT

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No Drawing. Application March 1, 1954, Serial No. 413,474

1 Claim. (Cl. 260—410.5)

This invention relates to a new composition of matter to be used as a lubricant for clocks, watches or other delicate instruments.

In the lubrication of fine instruments, such as clocks, watches and meters, one of the main problems is to retain the oil at the bearing, it being a tendency of the oil to spread over the metal and dissipate itself. As it is impossible to enclose these bearings to prevent the spread of the lubricant, an oil which has spread resistant properties is highly desirable.

It is the object of the present invention to provide an oil which is spread resistant and which, with this feature, retains other desirable qualities.

It is a still further object of the present invention to provide a lubricant made from the reaction product of caprylic acid and glycidyl phenyl ether.

It is a still further object of the present invention to provide a lubricant which will have a good viscosity, a pour point at —40° F. or below, which has resistance to spread, a low evaporation rate and a steel against sapphire coefficient of friction in the neighborhood of .08.

The mono-ester reaction product of caprylic acid and glycidyl phenyl ether possesses the above qualifications. The preparation of this material is as follows:

The identical chemical equivalents of glycidyl phenyl ether and caprylic acid are refluxed together in the presence of 0.5% by weight p-toluene sulfonic acid of the caprylic acid and enough toluene to remove any water present. When this is accomplished, the reaction mixture is diluted with an appropriate solvent, made alkaline with aq. Na_2CO_3 solution, washed to neutrality with pure water, the solvent removed and the residue fractionally distilled under vacuum.

The resulting material, alpha-phenyl, gamma-caprylate, glycerol also known as 1-phenoxy, 3-caprylate, propanol-2, has the following physical properties:

Kinematic viscosity @ 100° F., centistokes	30
Pour point, ° F	Minus 40
Refractive index @ 25° C	1.4935
Specific gravity @ 25/25° C	1.040
Resistance to spreading	Good
Evaporation rate	Low
Coefficient of friction	0.080

What is claimed is:

A spread resistant lubricant, comprising alpha-phenyl, gamma-caprylate glycerol, characterized by having a pour point of —40° F., a coefficient of friction of .08, a good resistance to spread and a low evaporation rate.

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