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LUBRICANT

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This invention relates to improvements in lubricating compositions and more particularly to plug valve and packing lubricants.

Lubricants which are provided for use in valves, pumps or other places where the metal surfaces are exposed to the fluids must adhere tenaciously to the surfaces to which they are applied. Such adherence can only take place when the lubricant "wets" the metal surface with a greater free energy than the fluids present. Otherwise, even though it cannot be dissolved, the lubricant may be removed from the surfaces by the fluids and rendered useless.

An example of where this condition may exist is in the case of a metal surface exposed to a hydrocarbon, such as gasoline. A water soluble lubricant, such as glycerine, would not adhere to this metal surface due to the superior adhering qualities of the hydrocarbon film. Hence, some means must be found to lower the surface tension to permit penetration of the hydrocarbon film by the lubricant which can then adhere directly to the metal surface.

It is, therefore, an object of this invention to lubricate metal surfaces in the presence of non-polar solvents.

Another object of the invention is to penetrate the fluid film on a metal surface by means incorporated in the lubricant.

Another object of the invention is to maintain the lubricating qualities of the lubricant while imparting the added metal "wetting" qualities thereto.

Another object of the invention is to ensure a high degree of adherence and sealing properties in a hydrocarbon insoluble lubricant.

Other objects and advantages will become apparent from the description of the invention which follows.

An essential ingredient of the lubricant which will accomplish the purposes set forth is a synthetic aliphatic penetrant, such as the sodium secondary-alcohol sulphate commercially available under the name "Tergitol" and sold by the Carbide and Carbon Chemicals Corporation. Other penetrants are known variously as "Tensol" which is the sodium salt of sulphonated long chain aliphatic alcohols manufactured and sold by Synthetic Chemicals Inc. and "Intramline" which is the sodium salt of sulphonated alcohols manufactured and sold by Van Dyk & Company, Inc., and are also useful for the purpose.

I have found, however, that the inclusion of such materials in a lubricant are not generally sufficient to permit it to penetrate a non-polar

solvent film on a metal surface unless an alkali or alkali salt is also included. Consequently, the hydroxides, carbonates and silicates of sodium or potassium which have been found efficient may be used for the purpose.

The glycerine used as the base of the lubricant is a preferred material but the alcohols and polyhydric alcohols may be substituted. Hence, wherever the term "glycerine" is used in the specification and claims it is intended to include glycol, methyl alcohol and equivalent materials. Moreover, as is usual in lubricating compositions, the glycerine may contain some water so that the given percentages of this material are to be understood as including both glycerine and water.

A preferred formula is as follows:

	Percent
Tergitol	0.25 to 10
Sodium hydroxide	5 to 10
Glycerine	80 to 94.75

A lubricant made according to the preferred formula may be used in liquid form or a gelling agent may be included. Suitable gelling agents are bentonite clay, agar, sodium alginate and starch, the amounts used depending upon the consistency desired.

While the invention has been described in connection with certain specific embodiments thereof it is to be understood that these are by way of illustration only and not by way of limitation.

I claim:

1. A lubricating composition comprising glycerine, a small amount of sodium hydroxide, and a small amount of sodium secondary-alcohol sulphate.

2. A lubricant having substantially the following composition:

	Percent
Glycerine	80 to 94.75
Sodium hydroxide	5 to 10
Sodium secondary-alcohol sulphate	0.25 to 10

3. A lubricant base composition for lubricating metal surfaces exposed to non-polar solvents which adhere to said surfaces with greater free energy than said lubricant base, comprising essentially a liquid polyhydric alcohol base to which about 5 to 10 per cent of an alkali and 0.25 to 10 percent of a water-soluble salt of a sulphonated long chain aliphatic alcohol have been added to permit replacement of the solvents on said surfaces by the composition.

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