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UNITED STATES PATENT OFFICE

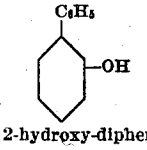
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MINERAL-OIL COMPOSITION

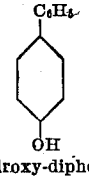
No Drawing. Application filed January 31, 1929. Serial No. 336,656.

This invention relates to improvements in the stabilization of oils and greases of mineral origin, and relates more particularly to the stabilization of lubricating oils, transformer oils and oils employed for the saturation of cables which are liable to become oxidized or decomposed under the influence of light and air or under high temperatures or when subjected to electrical stresses.

According to the present invention, there is incorporated with the mineral oils, a small amount of a stabilizing material which imparts thereto an increased stability and resistance to oxidation and decomposition. The stabilizing agents which are added to the oils according to the present invention, are aryl phenols, such as the hydroxy-diphenyls, more particularly 2-hydroxy-diphenyl and 4-hydroxy-diphenyl. A mixture of such compounds may be employed.



2-hydroxy-diphenyl



4-hydroxy-diphenyl

The stabilizing ingredient or ingredients may be added to the mineral oils directly or in solution in a suitable solvent, such as alcohol or benzol. The solution of the stabilizer may be readily incorporated in the mineral oil and the solvent may thereafter be volatilized from the mineral oil by steam-distillation or other heating.

A small amount of the stabilizing material will give satisfactory results. In general, a fraction of a percent such as two-tenths to five-tenths of a percent should suffice.

For example, a lubricating oil which may be an ordinary highly refined cylinder oil, may be stabilized by incorporating therein a few tenths of a percent of 2-hydroxy-diphenyl.

A few tenths of a percent of 4-hydroxy-diphenyl may likewise be used to stabilize a highly refined cylinder oil.

It is to be understood that throughout the claims the expression "mineral oil" is used to include greases and mineral oil compositions. The term "hydroxy-diphenyl" is employed generically to include derivates thereof.

I claim:

1. A mineral oil composition comprising in addition to the oil a fraction of a percent of a hydroxy-diphenyl.

2. A mineral oil composition comprising in addition to the oil a fraction of a percent of 2-hydroxy-diphenyl.

3. Highly refined cylinder oil having a fraction of a percent of a hydroxy-diphenyl incorporated therein.

4. Transformer oil of mineral origin having a fraction of a percent of a hydroxy-diphenyl incorporated therein.

5. A mineral oil suitable for saturating cable wrappings having a fraction of a percent of a hydroxy-diphenyl incorporated therein.

6. A mineral oil composition comprising in addition to the oil a fraction of a percent of 4-hydroxy-diphenyl.

In testimony whereof I affix my signature.

CHARLES F. KAEGEBEHN.