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MOTOR FUEL

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9 Claims. (Cl. 44—9)

This invention relates to motor fuels and more particularly to motor fuels containing gum-forming unsaturated compounds such as, for example, cracked gasoline. These fuels are highly desirable because of their excellent anti-knock properties, but the tendency to form a colored gum, especially under the influence of sunlight, renders them objectionable particularly where they are sold in the so-called visible dispensing pumps and are subject to the action of sunlight.

It has been proposed to stabilize the fuel by the addition of components which tend to prevent the formation of the colored gums. In the past, two such stabilizers have been described, namely, anthracene, phenanthrene and phenols and acid amides of aromatic amines such as acetanilide. According to the present invention I have found that the stabilizing effect of acid amides does not result in the presence of an aromatic amino group in the compound. On the contrary, unsubstituted acid amides of aromatic acids or alkyl amides of aromatic acids are even more effective. Both mono-amides and polyamides may be used. Thus, for example, benzamide is very effective and so is phthalamide and amides of other polycarboxylic aromatic acids. In addition to ordinary benzamide or amides of other aromatic acids such as toluylamide, salicylamide, etc., the alkyl substituted derivatives may be used such as mono- or dialkyl benzamide, methylol, ethylol or other hydroxy alkyl benzamides or toluylamides are likewise very effective.

The invention will be described in greater detail in connection with the following specific examples:

Example 1

2–6 pounds of benzamide are mixed with 100 barrels of cracked gasoline, producing a well stabilized product.

Example 2

2½–5 pounds of phthalamide or diethanol phthalamide are mixed with 100 barrels of cracked gasoline.

Example 3

2–5 pounds of diethyl benzamide or diethyl salicylamide are added to 100 barrels of cracked gasoline, producing a thoroughly stabilized mixture.

Example 4

2 pounds of benzamide and 1 pound of acetanilide are mixed with 100 barrels of cracked gasoline, producing a product which is comparable in its stability to that of Example 1.

Example 5

2–6 pounds of toluylamide or a mixture of toluolamide and phthalamide are mixed with 100 barrels of cracked gasoline, producing a fuel of excellent stability to light.

It will be apparent from the examples that not only can the amides of aromatic acids be used alone, but they may be used in conjunction with other stabilizers of different types. Naturally, of course, a plurality of acid amides of different aromatic acids may be used.

While it is normally desirable to use as little stabilizer as possible and the examples show amounts of stabilizer on the order of a few hundredths of a percent, larger amounts of stabilizer may, of course, be used without any harm, but practically the amount of stabilizer never need exceed 1%.

What is claimed as new is:

1. A cracked motor fuel containing a material selected from a class consisting of benzamide and phthalamide, the proportions of the amides being sufficient to inhibit gum formation and being approximately within the limits of 2–5 pounds per 100 barrels of motor fuel.

2. A cracked motor fuel containing phthalamide in the proportion of approximately 2–5 pounds per 100 barrels of motor fuel.

3. A cracked motor fuel normally tending to deteriorate upon storage and containing phthalamide in quantity sufficient to retard such deterioration.

4. A cracked motor fuel containing unsaturated gum-forming constituents and benzamide, the proportion of the amide being sufficient to inhibit gum formation.

5. A cracked motor fuel containing unsaturated gum-forming constituents and benzamide, the proportion of the amide being sufficient to inhibit gum formation.

6. A cracked motor fuel containing unsaturated gum-forming constituents and phthalamide, the proportion of the amide being sufficient to inhibit gum formation.

7. A cracked motor fuel containing an unsaturated gum-forming constituent and phthalamide, the proportion of the amide being sufficient to inhibit gum formation.

8. A cracked motor fuel according to claim 5, in which the benzamide is present in amounts less than 1%.

9. A cracked motor fuel according to claim 7, in which the phthalamide is present in amounts less than 1%.

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