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MANUFACTURE OF AGENTS FOR EMULSIFYING, PURIFYING, WETTING, OR THE LIKE BY SULPHONATION.

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The present invention relates to new agents for emulsifying, purifying, wetting and the like uses and to a process of preparing the same.

Our new products are obtainable by treating with a sulphonating agent a mixture of a brown coal tar oil and a compound containing an aromatic nucleus. The term "a brown coal tar oil" as used in the specification and the claims is intended to include, for instance, solar oil, yellow oil, gas oil, paraffin oil, and mixtures of hydrocarbons obtainable from brown coal tar. The term "a compound containing an aromatic nucleus" comprises such compounds as benzene, xylene, solvent naphtha, naphthalene, tetrahydronaphthalene, chlorobenzene, chloronaphthalene and anthracene, as well as mixtures of any of these.

Preferably the process is carried out by treating a mixture of about equal parts of brown coal tar oil and a compound containing an aromatic nucleus with chlorosulphonic acid at low temperatures, i. e., temperatures of, for instance, about −5° C. to about +30° C..

Our products form as sodium salts white to yellowish-brown powders being easily soluble in water and difficultly soluble in organic solvents.

The new agents show in general an activity which considerably exceeds that of a mixture of their sulphonated constituents used alone. For example, whereas on the one hand a sulphonic acid made from Solar oil by means of chloro-sulphonic acid shows in Traube's stalagmometer (water No. 35) a drop number of 76 for a solution of the sodium salt of 0.5 per cent strength, and on the other hand a sulphonic acid made from solvent naphtha by means of chlorosulphonic acid shows under like conditions a drop number of only 61, an agent obtained as described in the subjoined Example 1 shows a drop number of 83.

Instead of treating with a sulphonating agent a mixture of a brown coal tar oil and a compound containing an aromatic nucleus, the process may be carried out in such a way that at first one constituent may be treated with a sulphonating agent and then the second constituent added and, if necessary, the mixture further sulphonated.

The following examples illustrate the invention, the parts being by weight:—

Example 1.—To 300 parts of solvent naphtha mixed with 300 parts of Solar oil (from brown coal-tar) there are added gradually 600 parts of chlorosulphonic acid at 30° C. while stirring. The mixture is stirred for some time and after unchanged oil has been separated in the usual manner the sulphonic acid is isolated as sodium salt. It forms a yellowish-brown powder which is easily soluble in water and difficultly soluble in organic solvents.

Example 2.—300 parts of yellow oil are mixed with 300 parts of tetrahydronaphthalene and in the course of 2 hours 600 parts of chlorosulphonic acid are added at a low temperature. Stirring is continued for 2 hours and the product is worked up as described in Example 1. It has the properties hereinbefore indicated.

Example 3.—To 30 parts of Solar oil dissolved in 150 parts of chlorobenzene, 60 parts of chlorosulphonic acid are added at −5° C. during 2 hours and the mixture is stirred for 2 hours. The product is worked up as described in Example 1. It has properties similar to those of the products of the foregoing examples.

Like products are obtained if another sulphonating agent, such as sulphuric acid of 66° Bé. or fuming sulphuric acid is used instead of chlorosulphonic acid.

The products have excellent wetting and emulsifying properties and are useful for various purposes, for instance, dyeing and washing of textiles and destroying animal and plant pests and the like.

What we claim is:

1. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with a sulphonating agent a mixture of a brown coal tar oil and a compound containing an aromatic nucleus.

2. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with a sulphonating agent a mixture of a brown coal tar oil and an aromatic hydrocarbon of the benzene series.

3. The process of preparing agents for emulsifying, purifying, wetting and the like

uses which comprises treating with a sulphonating agent a mixture of a brown coal tar oil and solvent naphtha.

4. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with a sulphonating agent a mixture of Solar oil and solvent naphtha.

5. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with chlorosulphonic acid at a temperature of from about −5° C. to about +30° C. a brown coal tar oil and a compound containing an aromatic nucleus.

6. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with chlorosulphonic acid at a temperature of from about −5° C. to about +30° C. a mixture of a brown coal tar oil and solvent naphtha.

7. The process of preparing agents for emulsifying, purifying, wetting and the like uses which comprises treating with about 600 parts of chlorosulphonic acid at a temperature not in excess of about +30° C. a mixture of about 30 parts of Solar oil and about 300 parts of solvent naphtha.

8. As new agents for emulsifying, purifying, wetting and the like uses the compounds being obtainable by treating with a sulphonating agent a mixture of a brown tar coal tar oil and a compound containing an aromatic nucleus forming as sodium salts white to yellowish-brown powders being easily soluble in water and difficultly soluble in organic solvents, their aqueous solutions having a high emulsifying, purifying and wetting property.

9. As a new agent for emulsifying, purifying, wetting and the like uses the compound being obtainable by treating with about 600 parts of chlorosulphonic acid at a temperature not in excess of about +30° C. a mixture of about 300 parts of solvent naphtha and 300 parts of Solar oil, said compound forming a yellowish-brown powder being easily soluble in water and difficultly soluble in organic solvents, its aqueous solution having a high emulsifying, purifying and wetting property.

In testimony whereof we affix our signatures.

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