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NAPHTHENIC ALCOHOL ESTERS OF
FATTY ACIDS

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It has been found that excellent intermediate products for the manufacture of technically valuable high-molecular compounds may be obtained from the esters which consist, on the one hand, of unsubstituted or substituted, saturated or unsaturated, aliphatic, hydroaromatic or aliphatic-aromatic compounds containing hydroxyl, and having at least 6 carbon atoms, and on the other, of acids containing reactive halogen atoms or the derivatives or substitution products of such acids.

The said valuable high-molecular compounds are obtained according to the invention by converting the said esters with organic hydroxy compounds, aliphatic, hydroaromatic or aliphatic-aromatic alcohols and phenols. The organic hydroxy compounds are preferably employed in the form of their alkali compounds.

Of the hydroxyl compounds which are necessary for the synthesis of the said esters, the aliphatic alcohols containing 6 or more carbon atoms and having a saturated or unsaturated nature, also the naphthenic alcohols and the resin alcohols have been found to be particularly suitable. The alcohols obtainable from paraffin, also aliphatic-aromatic alcohols, such as benzyl alcohol, beta-phenyl-ethyl alcohol and the like may be employed, likewise polyvalent alcohols. It is also possible, however, to employ other aliphatic compounds containing hydroxyl groups, and having at least 6 carbon atoms, such as for example the saturated or unsaturated hydroxy fatty acids and their derivatives, such as esters and amines, and the hydroxyalkyl esters of fatty acids and the like, the hydroxyalkyl ethers or hydroxyalkyl thioethers of the higher alcohols and so on.

Of the acids which contain reactive halogen atoms and which are necessary for the synthesis of the said esters, the α -halogen fatty acids, such as mono-chloroacetic acid, monobromosuccinic acid, dichloro-acetic acid, α -bromolauric acid have been found to be particularly suitable. Instead of such α -halogen acids, however, it is also possible to employ aliphatic carboxylic acids which are substituted by halogen in other positions, furthermore carboxylic acids of other series containing replaceable halogen atoms, such as for example benzyl chloride-4-carboxylic acid, 2-chlorobenzoic acid or its substitution products, such as for example 5-sulpho-2-chlorobenzoic acid.

The new high-molecular compounds, in so far

as they are insoluble in water, should find an application in the perfume industry, furthermore as softening agents or the like.

The water-soluble products manufactured according to the present invention possess saponaceous properties. They may be employed alone or together with other soaps, saponaceous substances, filling substances, compounds which give off active oxygen and the like.

Examples

(1) 23 parts by weight of sodium metal are dissolved in 600 parts by weight of phenol, and 262 parts by weight of dodecyl chloroacetic ester are added to this solution. The mixture is then heated for 8 hours at 100° C. in the absence of atmospheric moisture. After working up in the usual manner, the dodecyl phenoxyacetic ester is obtained as a white crystalline mass. Melting point 33–34° C. Boiling point 240–245° C. at 17 mm. pressure.

The tetradecyl and hexadecyl esters of phenoxy-acetic acid, and their mixtures, may be manufactured in a similar manner. The same compounds are obtained when the bromoacetic ester is employed instead of the chloroacetic ester.

(2) 262 parts by weight of dodecyl chloroacetic ester and 100 parts by weight of dry sodium acetate are heated for a considerable time at about 180° C. After completion of the reaction, the reaction product is separated by means of an organic solvent from excess of sodium acetate and from the sodium chloride formed. The new compound boils at about 185° C. (15 mm. pressure). The compound produced is the dodecyl ester of acetyl glycollic acid.

We claim:

1. A new class of hydroaromatic esters of carboxylic acids corresponding to the formula $R^1-O-R^2-CO-O-R^3$, in which R^1 denotes a radical of a group consisting of fatty acid acyl radicals and aryl radicals, R^2CO-O denotes a saturated fatty acid radical and R^3 denotes a radical of naphthenic alcohol.

2. A new class of hydroaromatic esters of carboxylic acids corresponding to the formula $R^1-O-R^2-CO-O-R^3$, in which R^1 denotes an aryl radical, R^2-CO-O denotes a saturated fatty acid radical, and R^3 denotes a radical of naphthenic alcohol.

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