

ALIEN PROPERTY CUSTODIAN

PROCESS FOR PRODUCING SHAPED WASHING AGENTS

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This invention relates to shaped washing agents and to a process for making same. More particularly it relates to the production of washing agents being composed of water soluble salts of ether carboxylic acids and water soluble highly polymeric substances.

It has been found that most valuable washing agents particularly those used for body-culture are obtained by working the water soluble salts of ether carboxylic acids of the general formula $(R.O)_x.R'.COOH$, wherein R stands for any organic radical containing no less than 4 carbon atoms, R' for an alkylene radical that may also be substituted and x for the numbers 1 or 2, together with water soluble highly polymeric substances from vinyl compounds or polymerisation products of ethylene oxide or condensation products from aldehydes and carbon- or urea-derivatives either alone or together with other stuffs adapted for the manufacture of soap like preparations, into bars, pieces, balls, flakes, chips, films or powders.

Ether carboxylic acids of this kind are e. g. butyloxy acetic acid, i-amylloxy acetic acid, mixtures of alkoxy acetic acids obtainable from mixtures of alcohols obtained by reduction of first running acids of the paraffin oxidation or obtained as high boiling portions at the methanol synthesis, octyloxy acetic acid, dodecyloxy acetic acid, cyclohexyloxy acetic acid, tetrahydrofurfuryloxy acetic acid, phenoxy acetic acid, cresoxy acetic acid, aryloxy fatty acids alkylated or cycloalkylated in the nucleus, naphthenyloxy acetic acids, abityloxy acetic acids, benzyloxy acetic acid, tetrahydromenaphthyloxy acetic acid, dioctyloxy acetic acid, α -heptyloxy propionic acid, β -octyloxy propionic acid, γ -octyloxy-isobutyric acid, α -octyloxy capric acid and the like. Furthermore alkoxy fatty acids may be used, which are obtained from secondary alcohols by converting with halogen fatty acids, the alcohols being obtained from the first running acids of the paraffin oxidation with 7 to 9 carbon atoms by ketonizing and subsequent hydrogenizing or such alkoxy fatty acids, which are obtained by reacting alcoholates of the primary alcohols C_7-C_9 with α -halogen fatty acids such as α -butoxy lauric acid, 6-hydroxy-n-hexyloxy acetic acid, methoxy-n-hexyloxy acetic acid and the like. Among these ether carboxylic acids the alkoxy and cycloalkoxy fatty acids are to be preferred.

The water soluble salts of those ether carboxylic acids which may be formed with alkalis, earth alkalis, ammonia or organic bases, distinguish compared with ordinary soaps by their neutrally

reacting in aqueous solutions, owing to which fact they exert an excellent skin preserving effect. Furthermore they are more resistant to acids than ordinary soaps. Compared with organic mineral acid derivatives of a soap like character such as fatty alcohol sulfonates and the like, the salts of the ether carboxylic acids have the advantages that they do not cause any corrosion with metallic articles in aqueous solutions. With quaternary ammonium salts also applied in the cosmetics as washing and disinfecting agents, they are well compatible and finally, they have a good disinfecting action.

As water soluble polymerisation products especially polymerised carboxylic acids, their salts and their water soluble derivatives are to be named such as polymerised acryl acid, its homologues or derivatives, further any water soluble derivatives of insoluble polymeric carboxylic acids. Likewise mixed polymerisates containing a carboxylic group may be applied which are obtained by polymerisation of mixtures of substances such as acryl acid, maleic acid and styrol and which become soluble in water by neutralising the carboxylic groups with bases. In the same manner products may be used which are obtained by the sulfonation of polymerisates insoluble in water such as polystyrol. Also polymerisation products of alkylene oxides, vinyl methyl ethers, higher alkyl vinyl ethers and similar substances may be employed, and likewise the condensation products from urea and urea derivatives with aldehydes such as formaldehyde and the condensation products from cyclic amidines such as melamine, 2,4-dihydrazino-quinazoline with aldehydes.

The shaping of the water soluble salts of the ether carboxylic acids with the aforementioned polymerisation or condensation products is advantageously carried out by an addition of a suitable binding agent such as tragacanth, starch, dextrine, paraffin, waxlike stuffs e. g. hardened castor oil, or preferably of the water soluble ethers, ether carboxylic acids or ether sulfonic acids of the cellulose. Moreover any other mineral substances may be added in a finely distributed colloidal form such as kaolin, magnesia, bentonite or other silicious earths.

The manufacture of the different soap preparations is performed in such a manner that the salts of ether carboxylic acids are dissolved in water together with the said polymerisation or condensation products as well as with the binding agents and mineral stuffs, whereupon the mixture is evaporated to the desired consistency

for shaping. The different materials may likewise be mixed by stirring, kneading or rolling. Salts such as soda, sodium bitartrate, etc., soaps, solvents, disinfecting media, oxygen supplying agents, filling stuffs, perfumes and overfatting agents may still be added before shaping. The shaping can be done according to the consistency of the mixtures by pressure, casting, chipping, etc. of the mixtures.

Example 1

40 parts by weight of the sodium salt of the dodecyloxy acetic acid, 32 parts by weight of kaolin, 20 parts by weight of urea formaldehyde condensation product and 8 parts by weight of a 2% aqueous swelling of methyl cellulose are mixed with an addition of perfumes and colour, then piled and pressed into pieces of any desired shape.

Example 2

The concentrated aqueous solution of 41 parts by weight of the sodium of the octyloxy acetic acid, 12,2 parts by weight of the sodium salt of the polyacrylic acid and 0,8 part by weight of tragacanth is stirred together with 46 parts by weight of bentonite. Then the mixture is evaporated till a plastic mass is obtained, which after the piling allows to be shaped into pieces in the usual manner.

Example 3

40 parts by weight of a mixture of the sodium salts of heptyloxy, octyloxy and nonyloxy acetic acid are rolled together with 1 part by weight of a 2,5% aqueous solution of the sodium salt of cellulose glycolic acid, 10 parts by weight of a water soluble urea formaldehyde condensation product, 38 parts by weight of bentonite and 2 parts by weight of a quaternary ammonium compound obtained by reacting dimethylamino acetic acid dodecyl ester and benzyl chloride, then piled and pressed into hand washing pieces which are of a good disinfecting action.

Example 4

38 parts by weight of the sodium salt of a naphthenyloxy acetic acid obtained from naphthenic alcohols, 16 parts by weight of an urea formaldehyde condensation product, 35 parts by weight of kaolin, 8 parts by weight of a 2,5% aqueous solution of the sodium salt of the cellulose glycolic acid and 3 parts by weight of a tanning agent obtained according to the process disclosed in the application Ser. No. 264,126 are mixed and piled etc. The ready mixture allows to be shaped into solid pieces most apt for disinfecting and washing purposes.

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