

Title (en)

NANO-SIZED MATERIALS IN HYGIENE PRODUCTS

Title (de)

NANOSKALIGE MATERIALIEN IN HYGIENE-PRODUKTEN

Title (fr)

SUBSTANCES DE TAILLE NANOM TRIQUE DANS DES PRODUITS D'HYGIENE

Publication

**EP 1343539 A2 20030917 (DE)**

Application

**EP 01994777 A 20011212**

Priority

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Abstract (en)

[origin: WO0249559A2] The invention relates to the use of body-compatible substances for the production of hygiene products. The substances are present in the form of nanoparticles which have been chemically or physically modified on the surface thereof. The body-compatible substances are selected from oxides, oxidhydrates, hydroxides, halogenides, phosphates, sulfides, nitrides and carbides of Al, Si, of alkaline and alkaline-earth metals in addition to subgroup elements including mixed salts of said groups such as hydroxides/halogenides, halogenides/phosphates or hydroxides/halogenides/ phosphates. The chemical or physical modification of the particle surface is carried out with the aid of organic compounds such as: (a) carboxyl acids (mono, di and polycarboxylic acids) or derivatives thereof; (b) amino acids, particularly naturally occurring amino acids; (c) hydroxy-carboxyl acids and sugar acids such as glucaric acid, gluconic acid, glucuronic acid; (d) polyglycolic acids of general formula  $\text{HOOC-CH}_2\text{-O-(CH}_2\text{-CH}_2\text{-O)}_n\text{-CH}_2\text{-COOH}$ , whereby n represents 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12; (e) ethercarboxylic acids of general formula  $\text{R-(O-CH}_2\text{-CH}_2\text{)}_n\text{-O-CH}_2\text{-COOH}$ , whereby n represents 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11 or 12, whereby R = C6-, C8-, C10- C12- C14- C16- C18- alkyl, alkenyl or alkynyl; (f) alkylhalogenides or (g) silanes of the type  $(\text{OR})_4\text{-nSiR}'_n$ , whereby R = methyl, ethyl, propyl, i-propyl, butyl, t-butyl and R' represents an organic, particularly an aliphatic radical with functional groups such as OH, -COOH, ester, amine or epoxy, whereby preferably R' = C6-, C8-, C10- C12- C14- C16- C18-alkyl, alkenyl or alkynyl, aminopropyl, N-aminoethyl-3-aminopropyl, n- or l-propyl-N,N,N, -dimethyloctadecyl-ammonium chloride, n- or i-propyl-N,N,N-trimethyl ammonium chloride, n- or l-propyl succinic acid anhydride.

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IPC 8 full level

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