Carbohydrate Polymers 5 (1985) 391–394

Summaries of UK Patent Applications

Process for Separating Polysaccharide-containing Particles into High-protein and Low-protein Fractions. GB 2142636A. Filed 29 June 1984, published 23 January 1985. Applicants – Meyhall Chemical AG, Kreuzlingen, Switzerland.

The separation of polysaccharide-containing particles, especially guar flour, into low-protein and high-protein fractions is described. The separation is achieved by sedimentation in a solvent whose density is between those of the fractions to be separated. The preparation of derivatives from the guar inner endosperm flow is also described.

Novel Thermostable, Aciduric Alpha-amylase and Method of Production. GB 2143241A. Filed 12 July 1984, published 6 February 1985. Applicants – CPC International Inc., New Jersey, USA.

An alpha-amylase enzyme exhibiting thermostability at an acidic pH is obtained from a spore-forming, thermophilic, anaerobic bacterium selected from *Clostridium* species. The alpha-amylase is especially useful for the production of glucose-containing syrups from starch.

Absorbent Structures Comprising Vegetable Absorbent Material and Disposable Diapers Incorporating Such Structures. GB 2144759A. Filed 3 August 1984, published 13 March 1985. Applicants – Proctor and Gamble Company, Cincinnati, USA.

The preparation of a water absorbent structure from pectin-containing agricultural wastes such as citrus peel and sugar beet pulp is described.

The process involves an alkali treatment to de-esterify the pectin followed by bleaching and washing steps. Less than 50% of the pectin is in the form of a divalent metal salt. The material is of particular use as a water absorbent in nappies.

A Novel Thermostable Glucoamylase and Method for its Production. GB 2145094A. Filed 16 August 1984, published 20 March 1985. Applicants – CPC International Inc., New Jersey, USA.

A glucoamylase enzyme exhibiting thermostability at pH values between 6 and 7, which is derived from a spore-forming thermophilic anaerobic bacterium *Clostridium thermo-amylolyticium*, and a process for the production thereof, is described. The glucoamylase is especially useful for the preparation of glucose-containing syrups from starch.

Absorbent Vegetable Material and Process for Making Same. GB 2145103A. Filed 3 August 1984, published 20 March 1985. Applicants – Proctor and Gamble Company, Cincinnati, USA.

See summary to GB 2144759A. This patent application also contains details on measurement of water absorption and comparisons with related processes.

Starch Treatment Process and Heat Exchanger. GB 2146346A. Filed 12 September 1983, published 17 April 1985. Applicants – APV International, Crawley, UK.

A heat exchanger for converting starch is described where a stream of starch is caused to flow under pressure as a film through two or more indirect heating stages, the starch stream being in indirect heat exchange with live steam in a final heating stage. Advantages over direct steam injection are claimed.

Inclusion Compound of Eicosapentaenoic Acid and Food Product Containing the Same. GB 2146650A. Filed 2 August 1984, published 24 April 1985. Applicants – Hayashibara Seibutsu Kagaku Kenkyujo Kabushiki Kaisha, Okayama, Japan.

A eicosapentaenoic acid (EPA)/cyclodextrin inclusion compound is described. EPA prevents arteriosclerosis and has other health benefits. Its incorporation in an inclusion compound with cyclodextrin improves the resistance of EPA to rancidity and makes it organoleptically more acceptable. Examples of a range of foods in which the compound can be incorporated are given.

Process for Making Hot-water Dispersible Corn Starch Having High Paste Viscosity. GB 2148315A. Filed 7 September 1984, published 30 May 1985. Applicants – CPC International Inc., New Jersey, USA.

Maize starch is mixed with a surfactant such as glycerol monostearate; water is added to 40–50% by weight of the combined mixture. It is then heated in a closed container for at least 1 h in the temperature range 50–80°C. The mixture is then dried by subjecting it to microwave radiation. It is claimed that the product has excellent hot-water dispersibility.

Procedure for Manufacturing Cellulose Carbamate Fibres or Films. GB 2148789A. Filed 19 October 1984, published 5 June 1985. Applicants – Neste Oy, Espoo, Finland.

The process involves reacting cellulose and urea at elevated temperatures to produce cellulose carbamate. The cellulose carbamate is irradiated, dissolved in alkali and spun into an acid bath to produce fibres or films.

Protein/Polysaccharide Complexes. GB 2148901A. Filed 4 October 1984, published 5 June 1985. Applicants – Johnson and Johnson, New Jersey, USA.

Wound dressing and surgical implant materials consisting of a complex of an anionic polysaccharide and a biodegradable protein are described. The preferred complex contains sodium alginate and collagen and is prepared by adding the polysaccharide to a suspension of the protein at a pH below the latter's isoelectric point. The complexes may be stabilized by drying followed by heating or by the use of chemical crosslinking agents.

Skin Barrier Composition. GB 2149412A. Filed 7 November 1984, published 12 June 1985. Applicants – Hollister Inc., Illinois, USA.

A skin barrier composition comprising a mixture of a copolymer resin of ethylene and vinyl acetate (EVA) and a water-insoluble dry tack-providing elastometer such as polyisobutylene is described. The composition may typically contain a hydrocolloid at a proportion of 20–50% by weight for water adsorption. An example of a formulation containing gelatin, pectin and sodium carboxymethyl cellulose is included.

Water-separating Agent. GB 2149803A. Filed 22 October 1984, published 19 June 1985. Applicants – Mitsui Toatsu Chemicals Inc., Tokyo, Japan.

Water insoluble resins which adsorb water are described. They comprise a polymer or copolymer of at least one monomer selected from *N*-alkyl- or *N*-alkylene-substituted acrylamides or methacrylamides. Because of their water adsorbing ability they can be used to concentrate polysaccharide solutions. A change in water adsorbing ability with temperature is desirable so that water can be conveniently removed from the resin.

Anionic Polysaccharide Separation Membranes. GB 2150140A. Filed 23 November 1983, published 26 June 1985. Applicants – Dow Chemical Co., Michigan, USA.

Membranes prepared from anionic polysaccharides such as carboxymethyl cellulose and alginic acid are described. They are used to separate water from water-miscible organic compounds, e.g. water/ethanol mixtures.