

## Summaries of UK Patent Applications

**Polymeric Stabilizer of Water-in-Oil Emulsions.** GB 2174 097A. Filed 17 March 1986, published 29 October 1986. Applicants — Ceskoslovenska Akademie VED (Czechoslovakia), Praha, Czechoslovakia.

The patent describes the preparation of spherical microparticles of starch, dextran or human serum albumin using a polymeric stabilizer consisting of poly ( $\alpha$ -amino acid) derivatives based on monomer units of this general formula  $-\text{NH}-\text{CH}(\text{CH}_2)_n-\text{CO}-\text{X}-\text{R}$ .



Such materials stabilize emulsions of an aqueous phase in a phase of water-immiscible liquid.

**Polysaccharide Composition Comprising Depolymerized Cellulose and Carbonaceous Material and Process for Manufacture.** GB 2175 001A. Filed 6 May 1986, published 19 November 1986. Applicants — Microorganic Fuel Inc. (USA — California), S-3237 Carmel, California 93921, USA.

The patent describes a process for producing solid polysaccharide material useful, for example, as fuel or structural material. It consists of depolymerizing cellulose with cellulase to a degree where 5% and 20% by weight of the resultant liquid polysaccharide is water soluble, stabilizing the polysaccharide by heating to a temperature of at least 150°C, mixing it with powdered carbonaceous material, such as coal, and drying the mixture to form a solid product.

**Crosslinked Dextran Grain Polymers and Therapeutical Compositions.** GB 2175 307A. Filed 20 May 1986, published 26 November 1986. Applicants — Biogal Gyoguszergyar (Hungary), Pallagi ut 13, H-4042 Debrecen, Hungary.

A process for preparing therapeutically useful, crosslinked dextran grain polymers and the compositions containing them which consist of swelling the cross-linked grain polymer in water at a pH of 1.0–5.5, suitably at pH 4.0, while stirring, removing the acidic water and dehydrating by using a water-insoluble organic solvent, preferably ethanol. The materials are subsequently formulated into the form of e.g. a powder, plug or paste, optionally after sterilization with gamma radiation. The product is useful for treating, by covering, open wounds.

**Immobilized Microorganisms or Enzymes.** GB 2175 917A. Filed 29 May 1985, published 10 December 1986. Applicants — Kikkoman Corporation (Japan), 339 Noda, Noda-shi, Japan. Fuji-Davison Chemical Ltd (Japan), 1846 Kosojicho 2-chome, Kasugai-shi, Aichi-ken, Japan.

A microorganism or enzyme is mixed with an alginate or silica sol in the presence of water to obtain a liquid mixture having a pH of 3–10 and the mixture is contacted with a gelling agent in the form of an aqueous solution to produce immobilized microorganisms or enzymes.

**Drilling Fluid Additive Containing High Pyruvate Xanthan.** GB 2176 199A. Filed 27 May 1986, published 17 December 1986. Applicants — Pfizer Inc. (USA — Delaware), 235 East 42nd Street, New York, State of New York, USA.

The patent describes a drilling fluid additive which comprises high pyruvate xanthan and locust bean gum in a weight ratio of about 40:60 to 80:20. The additive increases the viscosity of the drilling fluid at low shear, has improved thermal stability and increases the capacity of the fluid to suspend high density weighting materials.

**Process for the Preparation of Heparin Salts.** GB 2176 200A. Filed 4 June 1986, published 17 December 1986. Applicants — Richter Gedeon Vegyeszeti Gyar Rt (Hungary), 19–21 Gyömrői ut, Budapest X, Hungary.

The patent outlines the preparation of heparin salts of pharmacopoeial purity, preferably calcium heparinate, by treating an aqueous solution of a heparinate with a quaternary ammonium halide and separating the precipitated heparin-quaternary amine complex. The complex is subsequently redissolved and the desired heparinate salt prepared.

**Polysaccharide Compositions, Preparation and Uses.** GB 2176 795A. Filed 24 June 1986, published 7 January 1987. Applicants — FMC Corporation, 200 Market Street, Philadelphia, Pa 19103, USA.

A beta-1, 3-glucan polysaccharide gel has: (a) coherent, uniform, non-particulate structure, and; (b) a substantially uniform pH throughout. The gels are prepared by dissolving a beta-1, 3-glucan polysaccharide in an aqueous alkaline medium at a temperature of about 55°C or below and while maintaining the solution at a temperature of at least 50°C, adjusting the pH to 10.5 or lower, followed by cooling below about 40°C or heating above 50°C.

**Absorbent Vegetable Materials.** GB 2177 100A. Filed 24 June 1986, published 14 January 1987. Applicants — The Procter and Gamble Company, 1, Procter and Gamble Plaza, Cincinnati, USA.

The patent describes the preparation of highly absorbent pectin-containing vegetable materials by incorporating into pectin-containing materials, substituents which contain cation exchange groups. The preferred pectin derivatives are obtained by treatment with succinic and maleic acids or with polyphosphoric acid.

**Microphase Separated Hydrogels for Controlled Release of Bioactive Materials.** GB 2177 708A. Filed 17 September 1984, published 28 January 1987. Applicants — The Kendall Company, 1 Federal Street, Boston, Massachusetts 02101, USA.

The patent describes hydrogel compositions, having a microphase separated morphology, comprising a blend of 2 thermoplastic uncross linked polymers, one of which is water-insoluble, and the other water-soluble, and a releasable agent. These hydrogel compositions are useful as devices for controlling the release rate of bioactive agents.

**Liquid Polymer Containing Compositions for Thickening Aqueous Mediums.** GB 2177 711A. Filed 5 February 1986, published 28 January 1987. Applicants — NL Industries Inc., New York, State of New York, USA.

The patent describes liquid, water-dispersible, acid-soluble compositions, suitable for thickening aqueous compositions comprising

hydroxyethyl cellulose, an oil base liquid and a gelling agent selected from aluminium phosphate compounds of a defined formula type.

**Methods and Products for Treating and Colouring Materials.** GB 2177723A. Filed 11 July 1986, published 28 January 1987. Applicants — Cogent Ltd, Temple Court, 11 Queen Victoria Street, London, EC4N 4TP, UK.

The patent describes the use of an amino sugar such as chitosan to give improved results with dyeing and with reactive dyes produces wash fast colouring of polyester/cotton blends, of polypropylene and polyethylene and even glass, metals and ceramics.

**Improved Process for the Preparation of Polysaccharides by Fermentation.** GB 2178 437A. Filed 29 July 1986, published 11 February 1987. Applicants — Societe Nationale Elf Aquitaine, Tour Elf, 2 Place de la Coupole, La Defense 6, 92400 Courbevoie, France.

Polysaccharides are prepared by the fungal fermentation of an aqueous solution of a sugar having an initial pH of 2–3;  $\text{NH}_4^+$  ions are introduced into the medium so that it contains  $10^{-3}$  to  $10^{-2}$  ions per litre throughout the fermentation, and fermentation is continued substantially without the formation of oxalate. The process is applicable to a range of fungi and is illustrated by the use of a species of *Sclerotium rolfsii*.

**Foamed Products.** GB 2179 043A. Filed 8 August 1986, published 25 February 1987. Applicants — The British Food Manufacturing Industries Research Association, Randalls Road, Leatherhead, Surrey, KT22 7RY, UK.

The patent describes the preparation of aqueous foams comprising at least one acidic foamable protein, preferably whey protein isolate or bovine serum albumin and a cationic polysaccharide, preferably chitosan or partially hydrolysed chitosan. Enhanced tolerance to the presence of lipid is demonstrated, particularly in the presence of a water-soluble sugar such as sucrose. The foams can be used to produce culinary products such as meringues and cake-mixes and they can be used for non-culinary purposes such as aerated lubricants and fire extinguishing compositions.