

Summaries of UK Patent Applications

Clarification of Xanthan Gum Solutions. GB 2111520A. Filed 15 October 1982, published 6 July 1983. Applicants – Kelco Biospecialities Ltd, London, UK.

A process for improving the clarity and ease of filtration of xanthan gum solutions is described. This involves treating the crude gum solution in the pH range 2-7 with an acid or neutral protease and then treating the solution with alkali to raise the pH.

Polysaccharide Production. GB 2111521A. Filed 22 October 1982, published 6 July 1983. Applicants – Kelco Biospecialities Ltd, London, UK.

The production of an alginate type polysaccharide from a culture of *Pseudomonas mendocina* is described. The polysaccharide is partially acetylated.

Composition and Process for Forming a Temporary Protective Coating on an Article and Article So-Protected. GB 2112408A. Filed 23 June 1982, published 20 July 1983. Applicants – Roquette Freres, Lestrem, France.

The use of starch and chemically or physically modified starches in protective coatings is described. The coatings are designed to temporarily

protect articles such as cars during storage prior to sale. In addition to starch the formulation will contain a surfactant, a plasticising agent such as sorbitol or hydrogenated glucose syrup and an agent such as formaldehyde resin to confer water resistance.

Hydroxyethyl Cellulose Composition for Viscosifying Brines. GB 2112410A. Filed 17 November 1982, published 20 July 1983. Applicants – NL Industries, New York, USA.

A dispersion of 10–25% hydroxyethyl cellulose in a polar organic liquid is described. After ageing, this dispersion can be added directly to heavy brines to give high viscosities. Uses are in oil well drilling.

Production of Polyurethane from Cellulose. GB 2112791A. Filed 11 December 1981, published 27 July 1983. Applicants – Epsilon Development Ltd, Oldham, UK.

Dry cellulose material (e.g. paper) is impregnated with an isocyanate containing at least two free isocyanate groups per molecule and with a catalyst. The impregnated cellulose material is heated and compressed to cause the isocyanate to react with cellulose giving a polyurethane material.

Texturing Material. GB 2113237A. Filed 30 November 1982, published 3 August 1983. Applicants – BPB Industries plc, London, UK.

Pre-gelatinised crosslinked starches and gelatin are used as ingredients in a texturing material for use on the surface of buildings. Methyl cellulose may also be incorporated.

A Method for Improving Injectivities of Biopolymer Solutions. GB 2115430A. Filed 17 February 1983, published 7 September 1983. Applicants – Exxon Production Research Co., Texas, USA.

A problem with the use of polysaccharides such as xanthan gum in oil recovery is a tendency for solutions to have poor injectability due to

undispersed material causing plugging of the sandface. The injectability of the solution can be significantly improved by circulating it through a colloid mill. Viscosity is not lost by this treatment.

Improvement in and Relating to an Enzyme for Decomposition of a High Molecular Weight Carbohydrate, the Isolated High Molecular Weight Carbohydrate, a Method for Selection of a Microorganism Producing Such an Enzyme and a Method of Production of Such an Enzyme. GB 2115820A. Filed 21 December 1982, published 14 September 1983. Applicants – Novo Industri A/S, Bagsvaerd, Denmark.

An enzyme which is able to decompose high molecular weight carbohydrate is described. This enzyme is able to decompose a material described as SPS (soluble polysaccharide) which would normally bind to vegetable protein. The use of the enzyme allows the production of vegetable proteins of high purities. Examples mainly relate to soya although treatment of other fruit and vegetable materials is considered. SPS from soya was characterised and the structure seem to be a rhamno-galacturonic backbone with sidechains of xylose and glucose. Weight-average molecular weight was 5.4×10^5 .

Method for the Immobilisation of Glucose Isomerase Active Microbial Cells. GB 2116560A. Filed 12 March 1982, published 28 September 1983. Applicants – Institute Po Microbiologica, Sofia, Bulgaria.

Microbial cells which possess glucose isomerase activity are immobilised by 'polymerisation' to join them up in a network structure. This is carried out by the use of glutaric aldehyde in the presence of blood serum or blood plasma.

A Method for the Specific Depolymerisation of a Polysaccharide Having a Rod-like Helical Conformation. GB 2116576A. Filed 26 January 1983, published 28 September 1983. Applicants – Kaken Pharmaceutical Co. Ltd and Taito Co. Ltd, Tokyo, Japan.

Polysaccharides that form rod-like helical structures (e.g. β -1,3-D glucan, schizophythan, scleroglucan and xanthan gum) can be degraded by

forcing solutions through capillaries at high shear rates ($>10^4 \text{ s}^{-1}$). Increasing the polysaccharide concentration increases the efficiency of depolymerisation as does the addition of a solvent (such as acetone or methanol) which is miscible with the water in which the polysaccharide is dissolved. The degraded polysaccharide has the same repeating unit and helical structure as the original material.

An Agent for Decomposition of Vegetable Remanence, Especially Soy Remanence, a Method for Production of a Purified Vegetable Protein Product, and a Purified Vegetable Protein Product. GB 2116977A. Filed 21 December 1982, published 8 October 1983. Applicants – Nova Industri A/S, Bagsvaerd, Denmark.

An enzyme or mixture of enzymes capable of dissolving high molecular weight carbohydrates which is of assistance in the production of purified vegetable proteins is described. (See GB 2115820A.)

Process for Hydroxypropylating Starch. GB 2117782A. Filed 30 March 1982, published 19 October 1983. Applicants – General Foods Corporation, White Plains, USA.

A process for making propylene chlorohydrin-free hydroxypropylated starch requires removing the excess propylene oxide from the reaction mixture before neutralisation of the starch. This removal of the propylene oxide prevents the formation of propylene chlorohydrin and thus alleviates the need for its removal.

Hydrated Hydroxyethyl Cellulose Compositions. GB 2118202A. Filed 3 March 1983, published 26 October 1983. Applicants – NL Industries Inc., New York, USA.

Hydroxyethyl cellulose can be hydrated in heavy brines to increase their viscosity if it is added as part of a composition consisting of an oleaginous liquid (such as an aliphatic or aromatic hydrocarbon), an inorganic salt having an exothermic heat of solution and a compatilising agent (e.g. an organophilic clay).