## **Summaries of UK Patent Applications**

Derivative of Carboxymethylcellulose Containing Betaine Groups. GB 2219 586A. Filed 13 June 1989, published 13 December 1989. Applicants — T. H. Goldschmidt A.G., Essen, FRG.

A derivative of carboxymethyl cellulose is disclosed in which at least one of the methyl groups is replaced by a group of the general formula

$$R^{1}$$
  $R^{3}$  | -CH<sub>2</sub>CON- $R^{2}$ - $N^{+}$ - $R^{5}$ -COO-

The compounds are used in cosmetic compositions for application to the hair and in the production of paper and textiles.

Nitrogen Containing Derivatives of Carboxymethylcellulose. GB 2219 586A. Filed 13 June 1989, published 13 December 1989. Applicants — T. H. Goldschmidt A.G., Essen, FRG.

A derivative of carboxymethylcellulose in which at least one carboxymethyl group is replaced by a group of the general formula

$$R^{1}$$
  $R^{3}$  | | | -CH<sub>2</sub>CON- $R^{2}$ - $N^{+}$ - $R^{5}X^{-}$  |  $R^{4}$ 

The compounds are used in cosmetic compounds for application to the hair and in the production of paper and textiles.

**Polysaccharides Containing Betaine Groups.** GB 2219 586A. Filed 13 June 1989, published 13 December 1989. Applicants — T. H. Goldschmidt A.G., Essen, FRG.

Polysaccharides which are derivatives of starch or cellulose are disclosed

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(see previous two patents). Use in hair-care composition and in the production of paper and textiles is described.

Gellan/Kappa-Carrageenan/Mannan Blends. GB 2219 803A. Filed 13 June 1989, published 20 December 1989. Applicants — Merck and Co. Ltd, New Jersey, USA.

A gelling composition comprising gellan, kappa-carrageenan and mannan is described. The mannan is selected from the group consisting of locust bean gum, tara gum, cassia gum and konjak mannan. Specific ratio ranges are claimed. A method of preparing high modulus gels of low brittleness is dislosed.

Modified Lipopolysaccharides. GB 2220 211A. Filed 22 June 1989, published 4 January 1990. Applicants — Ribl Immunochem Research Inc., Montana, USA.

Modified lipopolysaccharides particularly de-3-O-acylated monophosphoryl lipid A and de-3-O acylated diphosphoryl lipid A are provided by an alkaline hydrolysis under controlled conditions. The modified products are less endotoxic and maintain their antigenic and immunostimulating properties.

**Delayed Release Formulations Comprising Glassy Amylose.** GB 2220 350A. Filed 25 May 1989, published 10 January 1990. Applicants — Agricultural and Food Research Council, Reading, England.

Delayed release compositions comprising an active compound and glassy amylose are of use with a variety of different types of active compound. They are particularly useful for achieving the selective release of medicaments into the colon.

**Dispersions of Chitin.** GB 2229 417A. Filed 18 May 1989, published 10 January 1990. Applicants — University of Delaware, USA.

Ground chitin is rendered dispersible on mild shearing by pretreating the chitin with an aqueous bleach solution, e.g. hydrogen peroxide. The dispersions can be used to form paper-like products such as wound dressings. Cellulosic Composite Materials. GB 2220 669A. Filed 6 June 1989, published 17 January 1990. Applicants — National Research and Development Corporation, London.

Composite cellulose materials, e.g. chipboard and fibreboard of improved strength and wear resistance properties are produced from substrates which have been treated with a solution of polyfunctional isocyanate in an aprotic swelling solution.