Carbohydrate Polymers 1 (1981) 79–81

SUMMARIES OF UK PATENT APPLICATIONS

Edible Gels. GB 2048642A. Filed 8 April 1980, published 17 December 1980. Applicants–Mars Ltd, London, England.

Edible materials containing a gel or thickened phase consisting of a mixture of carrageenan and glucomannan. The gel may be thermoreversible or thermostable. Glucomannan is derived from plants of the *Iris*, *Aloe* or *Amorphophallus* genus, or from Yams. Uses include meat-in-jelly products and dessert gels.

Physiologically Active Polysaccharide. GB 2048918A. Filed 2 March 1980, published 17 December 1980. Applicants–Kirin Beer Kabushiki, Tokyo-to, Japan.

A water-soluble polysaccharide is prepared by treating autolysis-insoluble matter of *Saccharomyces* yeasts with a cell wall lytic enzyme. The polysaccharide contains 75–86% α-linked mannose, 14–25% glucose, a small quantity of glucosamine and some amino acids. Carcinostatic and interferon inducing properties are claimed.

Indican and Suspensions and Gels Thereof and Their Uses. GB 2050405A. Filed 22 February 1980, published 7 January 1981. Applicants–Tate and Lyle Ltd, London, England.

A method of preparing indican by a culture of the micro-organism *Beijerinckia indica* ATCC 19361 is given. This polysaccharide comprises (1 → 3) glucose, (1 → 4) mannose, (1 → 4) rhamnose and (1 → 3 or 4) O-(carboxyethyl)-rhamnose units in a molar ratio of about 2:1:1–2:1, respectively. It is soluble in methanol and ethylene glycol as well as water. It has an inherent viscosity of 33·5 dl/g. Useful rheological properties are claimed and examples of applications in paint, gelled petfoods, in organic solution with xanthan gum, as a paint stripper and in an oil-in-water emulsion are given.

Recovery of Xanthan Gum. GB 2051104A. Filed 22 May 1980, published 14 January 1981. Applicants–Merck and Co. Inc., New Jersey, USA.

Xanthan gum of improved solubilities, particularly in high salt solutions, is precipitated from the fermentation beer using alcoholic solvents in the temperature range 20-33°C. Advantages in dry food preparations such as orange flavoured drink mixes and in explosive mixtures with high levels of ammonium nitrate are claimed.

Cold Water Dispersible Gellable Starch. GB 2052541A. Filed 24 April 1980, published 28 January 1981. Applicants–National Starch and Chemical Corporation, New Jersey, USA.

Tapioca starch is crosslinked by reacting with chemicals such as phosphorus oxychloride, epichlorohydrin, sodium trimetaphosphate, etc. and drum dried. The product is cold water dispersible and can give a Bloom strength of at least 50 g (measured for a sample containing 7·0 g starch, 20·0 g sugar and 100 ml water). This gelling, instant starch is of use in pie fillings, jellies and puddings.

Process for Making Cellulase-free Xanthan Gum. GB 2052542A. Filed 2 June 1980, published 28 January 1981. Applicants–Merck and Co. Inc., New Jersey, USA.

Cellulase in xanthan gum is destroyed by treating the xanthan gum beer with an alkali metal hypochlorite followed by heat treatment and purification. The gum so treated can be used in formulations containing cellulose derivatives such as some toothpaste and food preparations.

Amine Salts of Acidic Microbial Polysaccharides. GB 2053945A. Filed 18 July 1979, published 11 February 1981. Applicants–The Lubrizol Corporation, Ohio, USA.

Novel amine salts of acidic polysaccharides prepared by microbial fermentation, for example, xanthan gum, are claimed. The polysaccharide forms a salt with aliphatic or alicyclic polyamines having at least three amino nitrogen atoms and a molecular weight of at least 150. Microbial polysaccharides may be recovered from the fermentation broth by precipitation of the amine salt.

Pullulan Derivative and Method for the Preparation Thereof. GB 2054625A. Filed 21 July 1980, published 18 February 1981. Applicants–Shin-Etsu Chemical Co. Ltd, Tokyo, Japan.

The compound cyanoethylpullulan is prepared by reacting pullulan with acrylonitrile in the presence of an alkali catalyst. The compound may be shaped into films or sheets or used as a binding agent. It has a very high dielectric constant when the degree of cyanoethylation is 50% or higher. It also has good thermal properties, is soluble in organic solvents and has useful film forming properties.

Polysaccharides having Anti-carcinogenic Activity and Method for Producing Same. GB 2055873A. Filed 8 August 1980, published 11 March 1981. Applicants–Tokara Shuzo Co. Ltd, Kyoto, Japan.

Polysaccharides having anti-carcinogenic activity are isolated from liquid extracts of stomatoid and/or mycelium of a strain of micro-organism belonging to the class *Hyphomycetes,* genus *Isaria* or from a culture medium in which the strain has been incubated.

Low Viscosity Composition for Forming Shaped Bodies. GB 2057002A. Filed 25 June 1980, published 25 March 1981. Applicants–National Standard Company, Michigan, USA.

A composition is described consisting of a polysaccharide binder, such as alginate, guar gum or a cellulose derivative, and at least about 50% by weight of a particulate oxidised metal (e.g. Fe_2O_3), a dispersant and in some cases a crosslinking agent. The composition, which has an aqueous base, is pourable and can be formed by methods such as molding, extruding or casting into bodies of a wide range of shapes possessing a high degree of physical integrity and green strength. After shaping the bodies can be sintered to produce high density metal articles.

Process and Apparatus for Modifying Carbohydrates. GB 2057478A. Filed 21 August 1980, published 1 April 1981. Applicants–St Lawrence Technologies Ltd, Ontario, Canada.

A reactor is described for modifying carbohydrates. In particular this is used for producing glucose syrup with DEs up to at least 73 by the action of heat and acid alone without the need for a subsequent enzyme treatment. The starch slurry is first pumped through a tubular preheat zone, where very rapid heat transfer results in a slurry passing quickly through the gelatinisation stage into a free-flowing liquid. The hot liquid is immediately forced through a restrictive opening into a confined tubular reaction zone which is accompanied by a sudden decrease in pressure whereby it is made highly reactive. The starch together with acid is then continuously moved through a tubular reaction zone to produce a modified starch product in fluid form.