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(54) **POLYSACCHARIDES AYANT L'APPARENCE DU VERRE
UTILES COMME ABSORBANT**

(54) **GLASS-LIKE POLYSACCHARIDES USEFUL AS ABSORBENTS**

GLASS-LIKE POLYSACCHARIDES USEFUL AS ABSORBENTS

The present invention relates to a particulate liquid absorbent. It in particular relates to absorbent materials based on glass like polysaccharides, glass like starches and the like.

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Glass like starches are for example discussed in U.S. patent no 3,706,598 the entire contents of which are incorporated herein as Annex A attached hereto below.

The particulate liquid absorbent may, for example, be obtained as a by-product of a process for 10 obtaining a glass-like polysaccharide or glass like starch such as described in U.S. patent no 5,360,903; the entire contents of U.S. patent no. 5,360,903 is incorporated herein as Annex B attached hereto below.

The present invention in particular relates to the use of X as a liquid absorbent (e.g. for absorbing 15 a liquid such as water or other polar liquids such as for example acids (e.g. aqueous acids), bases (e.g. aqueous basic liquids); X being understood herein as being or referring to a glass-like polysaccharide in particular a glass-like starch; X being obtained from any suitable process for its manufacture, for example, as the by-product of a process to make a glass-like polysaccharide for example by a process such as described herein with respect to U.S. patent no. 5,360,903 in Annex 20 B; X being a particulate material; X for example having a particle size of 500 microns or less; X having, for example, a water absorption capacity of at least 5 gm (e.g. 8 gm) water per gm of X; X having a strong water binding (i.e. agglomeration) capacity e.g. a strong dry (i.e. no wet back)

fast (e.g. in less than 5 seconds) agglomeration may for example be obtained when associating 0.6 gm water with 1 gm X; X being stable with respect to acidic, neutral and basic liquids (e.g. strong acid /strong basic liquids)-(e.g. liquids of pH 2, 7 and 11) as well as in the presence of metal ions such as, for example, ions of alkali or alkaline earth metals (e.g. ions of Na, K, Mg, Ca, and the like); X may be configured so as to be a non abrasive material; X being a biodegradable absorbent with a low ash content if burned; X may be relatively temperature stable e.g. from room temperature to 150 °C .

It is to be understood herein, that if a "range", "group" or the like is mentioned with respect to a particular characteristic (e.g. chemical structure, physical characteristic, granulometry (e.g. particle size), temperature, pressure, time, etc.) of the present invention, the present invention relates to and explicitly incorporates herein each and every specific member and combination of sub-ranges or sub-groups therein whatsoever. Thus, any specified range, group or the like is to be understood as a shorthand way of referring to each and every member of a range, group or the like, individually as well as each and every possible sub-ranges or sub-groups encompassed therein; and similarly with respect to any sub-ranges or sub-groups therein. Thus, for example,

- with respect to pressure, this is to be understood as specifically incorporating herein each and every individual pressure state;
- with respect to a temperature this is to be understood as specifically incorporating herein each and every individual temperature state,;
- with respect to residence or reaction time, a time of 1 minute or more is to be understood as specifically incorporating herein each and every individual time, as well as sub-range,

above 1 minute, such as for example 1 minute, 3 to 15 minutes, 1 minute to 20 hours, 1 to 3 hours, 16 hours, 3 hours to 20 hours etc.;
- and similarly with respect to other parameters such as concentrations, elements, etc...

5 The absorbent X described herein may, for example, be used in the following contexts:

- a) Absorbent article useful for sanitary napkins etc. - comprising a liquid permeable top sheet, a back sheet, and an absorbent core as well as comprising a glass like starch as described herein.
- b) Gel block resistant particulate compsn. for absorbent articles -comprising hydrogel-forming polymer particles, used in diapers, etc.
- c) Porous macrostructure (s) of bonded absorbent particles for high particle mobility -may comprise a glass starch as described herein useful in absorbent articles e.g. diapers, sanitary napkins, incontinence pads and the like
- d) an absorbent liner for food packaging so as for example to absorb blood from meat products (e.g. the absorbent X may be used as a food grade absorbent).

The absorbent X as described herein is odour free when used as an absorbent i.e. odour free when in contact with a liquid such as water.

Claim(s):

1. The use of a glass-like polysaccharide in particular a glass-like starch (i.e. hereinafter referred to as X) as a liquid absorbent (e.g. for absorbing a liquid such as water or other polar liquids such as for example acids (e.g. aqueous acids), bases (e.g. aqueous basic liquids); X being, for example, the by-product of a process to make a glass-like polysaccharide for example such as described herein with respect to U.S. patent no. 5360903 ; X being a particulate material; X for example having a particle size of 500 microns or less; X having, for example, a water absorption capacity of at least 0.6 gm water per gm of X; X being stable with respect to acidic and basic liquids (e.g. strong acid /basic liquids) as well as in the presence of ions of alkali or alkaline earth metals.