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(54) Title: POLYMERIC MICROBEADS AND METHOD OF PREPARATION

(57) Abstract

The present invention relates to porous crosslinked polymeric microbeads having cavities joined by interconnecting pores wherein at least some of the cavities at the interior of each microbead communicate with the surface of the microbead. The present invention also relates to a process for producing a porous, crosslinked polymeric microbead as well as the product of this process. This process involves combining an oil phase with an aqueous discontinuous phase to form an emulsion adding the emulsion to an aqueous suspension medium to form an oil-in-water suspension of dispersed emulsion droplets, and polymerizing the emulsion droplets to form microbeads. At least 10 % of the microbeads produced in accordance with the present invention are substantially spherical or substantially ellipsoidal or a combination of the two.

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WO 95/33553 PCT/US95/06879

AMENDED CLAIMS

[received by the International Bureau on 12 December 1995 (12.12.95); original claim 83 amended; new claim 84 added; remaining claims unchanged (2 pages)]

concentration in the range of about 0.01 to about 15 weight percent.

- 80. The process of Claim 76 wherein the inert solvent is selected from the group consisting of trichloroethane and toluene.
 - 81. The process of Claim 72 wherein the suspending agent is a natural gum.

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- 82. A process for producing a porous crosslinked polymeric microbead comprising
 - (a) combining
 - (i) an oil phase comprising

(1) styrene;

- (2) divinylbenzene;
- (3) lauroyl peroxide;
- (4) trichloroethane:
- (5) sorbitan monooleate

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- (b) adding the emulsion to an aqueous suspension medium to form an oil-in-water suspension of dispersed emulsion droplets, wherein said suspension medium comprises acacia gum and does not contain a polymerization initiator; and
- (c) polymerizing the emulsion droplets.

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- 83. A porous crosslinked polymeric microbead produced by the process comprising
 - (a) combining
 - (i) an oil phase comprising
- 35 (1) styrene;
 - (2) divinylbenzene;

WO 95/33553 PCT/US95/06879

- (3) lauroyl peroxide;
- (4) trichloroethane;

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- (5) sorbitan monooleate
- (ii) an aqueous discontinuous phase that does not contain a polymerization initiator to form an emulsion;
- (b) adding the emulsion to an aqueous suspension medium to form an oil-in-water suspension of dispersed emulsion droplets, wherein said suspension medium comprises acacia gum and does not contain a polymerization initiator; and
- (c) polymerizing the emulsion droplets.
- 15 84. The process of Claim 72 wherein the oil phase additionally comprises a porogen.

WO 95/33553 PCT/US95/06879

STATEMENT UNDER ARTICLE 19

The claims in the above-referenced application have been amended to complete Claim 83 and add Claim 84. These claims were present in the originally filed application on pages 67-68. The attached copy of the Return Receipt Postcard evidences that the application contained 17 sheets of claims (pages 52-68). Although it is believed that Applicant is entitled to have these claims considered as part of the original application, Applicant has chosen the simpler expedient of amending the claims to include Claim 84 and the missing portion of Claim 83.

None of the amendments require changes to the Title, Abstract, or Specification.