

nized by those skilled in the art that many variations are possible without departing from the scope and spirit of the invention, and it will be understood that it is intended to cover all changes and modifications of the invention, disclosed herein for the purposes of illustration, which do not constitute departures from the spirit and scope of the invention.

The embodiments of the invention in which an exclusive property or privilege is claimed are defined as follows:

1. A process for reducing post-surgical adhesion formation/reformation following injury to organs situated in mammalian body spaces comprising separating said organs from adjacent mammalian tissue with an effective adhesion reducing amount of a thermally-irreversible aqueous gel composition consisting essentially of water and a mixture of at least one ionic polysaccharide,

(A) at least one polyoxyalkylene block copolymer of the formula



wherein A is an oxyalkylene moiety having an oxygen/carbon atom ratio of less than 0.5, x is at least 1, Y is derived from water or an organic compound containing x reactive hydrogen atoms, E is a polyoxyethylene moiety, n has a value such that the average molecular weight of A is at least about 500 to about 900, as determined by the hydroxyl number of an intermediate,



and the total average molecular weight of the copolymer is at least about 5000 and

(B) optionally, a latent form of at least one counter-ion capable of thermo-irreversibly gelling said composition.

2. The process of claim 1, wherein Y in said formulas I and II is a water soluble organic compound having 1-6 carbon atoms, and said copolymer is selected from the group consisting of a polyoxyethylene-polyoxybutylene block copolymer, a polyoxyethylene-polyoxypropylene block copolymer and mixtures thereof, wherein the polyoxyethylene moiety constitutes at least 70% by weight of the polymer.

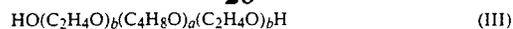
3. The process of claim 2, wherein said copolymer is selected from block copolymers which form aqueous gels at a concentration of about 10-40% by weight of the total weight of said composition.

4. The process of claim 3, wherein said Y is a compound selected from the group consisting of propylene glycol, glycerin, pentaerythritol, trimethylolpropane, ethylenediamine, and mixtures thereof, and wherein said optional counter-ion is, if present, in latent form as a microencapsulated component or incorporated with an ion exchange resin.

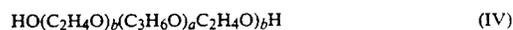
5. The process of claim 4, wherein Y is derived from propylene glycol, A is the residue of propylene oxide, and the intermediate of Formula II has an average molecular weight of at least about 900.

6. The process of claim 4, wherein Y is derived from butylene glycol, A is the residue of butylene oxide, and the intermediate of Formula II has an average molecular weight of at least about 500.

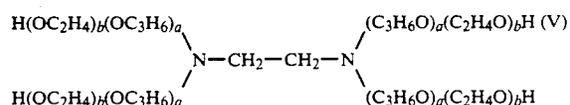
7. The process of claim 5, wherein said polymer has the formula



wherein in III, a and b are integers such that the hydrophobe base represented by $(C_4H_8O)_a$ has a molecular weight of at least about 1000, as determined by hydroxyl number, the polyoxyethylene chain constitutes at least about 60% by weight of the copolymer, and the copolymer has a total average molecular weight of at least about 5,000, or

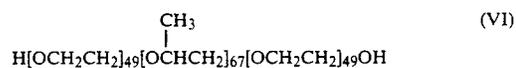


wherein in IV, a and b are integers such that the hydrophobe base represented by $(C_3H_6O)_a$ has a molecular weight of at least about 1500 average molecular weight, as determined by hydroxyl number, the polyoxyethylene chain constitutes at least about 60% by weight of the copolymer, and the copolymer has a total average molecular weight of at least about 5,000 or



wherein in V, a and b are integers such that the copolymer has a hydrophobe molecular weight of at least about 2000, a hydrophile content of at least about 60%, and a total average molecular weight of at least about 5,000.

8. The process of claim 7, wherein said copolymer is



9. The process of claim 8, wherein said copolymer is present in a concentration of about 15% to about 30% by weight of the total weight of said composition, said composition forms a thermally-irreversible alginate gel upon contact with said mammalian tissue or said optional counter-ion which is selected from the group consisting of calcium, strontium, aluminum and mixtures thereof, said composition is isotonic and includes a pharmaceutically acceptable buffer, said counter-ion, if present, is in latent form as a microencapsulated component or incorporated with an ion exchange resin, and said organs are situated in the peritoneal, pelvic, or pleural cavity.

10. The process of claim 8, wherein said polyoxyalkylene block copolymer is present in the amount of about 15 to about 30% by weight of said aqueous composition, said composition forms a thermally-irreversible gel upon contact with said mammalian tissue or said optional counter-ion, said composition is isotonic, said counter-ion, if present, is in latent form and present in an ionic compound as a microencapsulated component or present as an anion in an ion exchange resin, said counter-ion is the anion of an ammonium or metal salt which anion is selected from the group consisting of the phosphates, metaphosphates, pyrophosphates, tripolyphosphates, and mixtures thereof, and said ionic polysaccharide is chitosan.

11. A thermally-irreversible, aqueous gel composition for reducing post-surgical adhesion formation/reformation following injury to organs situated in mammalian