

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 surgical injury to organs situated in the mammalian peritoneal or pleural cavity, comprising separating said organs from adjacent tissue with an effective amount of a composition comprising: a 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 5000.

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 and wherein said composition includes a physiologically acceptable carrier liquid.

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.

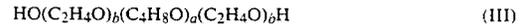
4. The process of claim 3 wherein said Y is derived from a compound selected from the group consisting of propylene glycol, butylene glycol, glycerin, pentaerythritol, trimethylolpropane, ethylenediamine, and mixtures thereof, and said carrier liquid is water.

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.

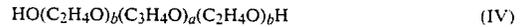
6. The process of claim 4 wherein Y is derived from butylene glycol, A is the residue of butylene oxide, and

the intermediate of Formula II has an average molecular weight of at least about 500.

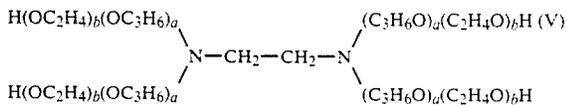
7. The process of claim 5 or claim 6 wherein said polymer has the formula



wherein in III, a is an integer such that the hydrophobe base represented by (C₄H₈O) has a molecular weight of at least 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 5,000, or

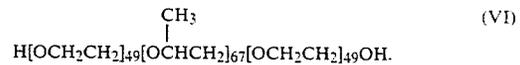


wherein in IV, a is an integer such that the hydrophobe base represented by (C₃H₆O) has a molecular weight of at least about 1500 average molecular weight, as determined by hydroxyl number, the polyoxyethylene chain constitutes at least about 60% by weight of the copolymer, and the copolymer has a total average molecular weight of at least 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 and said composition is a liquid at ambient temperature and forms a gel upon contact with said mammalian tissue.

10. The process of claim 9 wherein said composition contains at least one of a humectant, a bactericide, a bacteriostatic agent, an agent to prevent leucocyte migration into an area of surgical injury, and a fibrinolytic agent.

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