WHAT IS CLAIMED IS:

1. A method for manufacturing a cathode slurry for use in a biocompatible battery comprising the steps of:

   mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

   obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

   filtering the cathode slurry mixture; and

   distributing the cathode slurry mixture into the cavity of the laminar structure to form a biocompatible cathode for use in a biocompatible battery.

2. The method of claim 1 further comprising checking a quality of the solid phase pre-mixture and the liquid phase pre-mixture.

3. The method of claim 1 further comprising storing and recirculating the cathode slurry mixture after filtering the cathode slurry mixture.

4. The method of claim 1 further comprising drying the cathode slurry mixture.

5. The method of claim 1 wherein the liquid phase pre-mixture comprises one or more reagents wherein at least one reagent is a liquid phase reagent.

6. The method of claim 5 further comprising filtering the liquid phase reagents.

7. The method of claim 5 wherein one liquid phase reagent comprises a solvent.

8. The method of claim 7 wherein the solvent comprises toluene.

9. The method of claim 1 wherein the solid phase pre-mixture comprises one or more solid phase reagents.

10. The method of claim 9 further comprising sieving the solid phase reagents to a uniform particle size.

11. The method of claim 9 wherein the solid phase reagent comprises a jet milled electrolytic manganese dioxide.

12. The method of claim 9 wherein one solid phase pre-mixture comprises a transition metal oxide.

13. The method of claim 12 wherein the transition metal oxide comprises manganese dioxide.

14. The method of claim 9 wherein one solid phase reagent comprises a carbon allotrope.

15. The method of claim 14 wherein the carbon allotrope comprises graphite.

16. The method of claim 15 wherein the graphite comprises carbon black.

17. The method of claim 5 wherein the liquid phase pre-mixture comprises a hydrophobic binder.

18. The method of claim 17 wherein the hydrophobic binder comprises polyisobutylene (PIB).

19. The method of claim 17 wherein the hydrophobic binder comprises a fluorocarbon solid.

20. The method of claim 19 wherein the fluorocarbon solid comprises polytetrafluoroethylene (PTFE).

21. A method for manufacturing a biocompatible cathode for use in a biocompatible battery comprising the steps of:

obtaining toluene, manganese dioxide, carbon black, and polyisobutylene;

filtering toluene;

sieving manganese dioxide;

sieving carbon black;

sieving polyisobutylene;

mixing the toluene and the polyisobutylene into a liquid phase pre-mixture;

mixing the manganese dioxide and carbon black into a solid phase pre-mixture;

checking a quality of both the solid and liquid phase pre-mixtures

mixing the solid phase pre-mixture and liquid phase pre-mixture into a cathode slurry mixture;

filtering the cathode slurry mixture;

storing the cathode slurry mixture;

recirculating the cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the stored cathode slurry mixture;

distributing the filtered cathode slurry mixture into the cavity of the laminar structure; and

drying the cathode slurry mixture to form a biocompatible cathode for use in a biocompatible battery.

22. A method for manufacturing a cathode slurry for use in a biomedical device comprising comprising the steps of:

mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the cathode slurry mixture; and

distributing the cathode slurry mixture into the cavity of the laminar structure forming the cathode slurry for use in a biomedical device;

wherein the biomedical device comprises an insert device comprising:

an electroactive element responsive to a controlling voltage signal;

a biocompatible battery;

wherein the biocompatible battery comprises:

a first and second electrode;

an anode;

a separator;

a laminar structure, wherein at least one layer of the laminar structure has a volume removed to form a cavity; and

the cathode slurry wherein at least an average molecular size of one component of the cathode slurry is reduced in particle size by milling said component; and

wherein the cathode slurry is capable of filling the cavity, based on its rheology, while maintaining electroconductivity through the laminar structure in the cavity; and

a circuit electrically connected to a biocompatible battery, wherein the circuit provides the controlling voltage signal.

23. The method of Claim 22 wherein the biomedical device is a contact lens.

24. A method of manufacturing a cathode slurry mixture for use in a biomedical device comprising the steps of:

mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the cathode slurry mixture; and

distributing the cathode slurry mixture into the cavity of the laminar structure forming the cathode slurry mixture for use in a biomedical device;

wherein the biomedical device comprises:

an insert device comprising:

an electroactive element responsive to a controlling voltage signal;

a biocompatible battery;

wherein the biocompatible battery comprises:

a first and second electrode;

an anode;

a separator; and

the cavity for storing a cathode mixture;

wherein the cathode mixture is capable for storage, based on its rheology, while maintaining electroconductivity and biocompatibility;

wherein the cathode slurry mixture comprises:

manganese dioxide;

graphite;

polyisobutylene (PIB);

Toluene; and

wherein at least an average molecular size of one component of the cathode mixture is reduced in particle size by milling said component; and

a circuit electrically connected to the biocompatible battery wherein the circuit provides the controlling voltage signal.

CLAIMS

1. A method for manufacturing a cathode slurry for use in a biocompatible battery comprising the steps of:

mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the cathode slurry mixture; and

distributing the cathode slurry mixture into the cavity of the laminar structure to form a biocompatible cathode for use in a biocompatible battery;

wherein the liquid phase pre-mixture comprises one or more reagents, at least one comprising a hydrophobic binder comprising polyisobutylene (PIB) and wherein at least one reagent is a liquid phase reagent.

2. The method according to claim 1, further comprising checking a quality of the solid phase pre-mixture and the liquid phase pre-mixture.

3. The method according to claim 1, further comprising storing and recirculating the cathode slurry mixture after filtering the cathode slurry mixture.

4. The method according to claim 1, further comprising drying the cathode slurry mixture.

5. The method according to claim 1, further comprising filtering the liquid phase reagents.

6. The method according to claim 1, wherein one liquid phase reagent comprises a solvent.

7. The method according to claim 6, wherein the solvent comprises toluene.

8. The method according to claim 1, wherein the solid phase pre-mixture comprises one or more solid phase reagents.

9. The method according to claim 8, further comprising sieving the solid phase reagents to a uniform particle size.

10. The method according to claim 8, wherein the solid phase reagent comprises a jet milled electrolytic manganese dioxide.

11. The method according to claim 8, wherein one solid phase pre-mixture comprises a transition metal oxide.

12. The method according to claim 11, wherein the transition metal oxide comprises manganese dioxide.

13. The method according to claim 8, wherein one solid phase reagent comprises a carbon allotrope.

14. The method according to claim 13, wherein the carbon allotrope comprises graphite.

15. The method according to claim 14, wherein the graphite comprises carbon black.

16. A method for manufacturing a biocompatible cathode for use in a biocompatible battery comprising the steps of:

obtaining toluene, manganese dioxide, carbon black, and polyisobutylene;

filtering toluene;

sieving manganese dioxide;

sieving carbon black;

sieving polyisobutylene;

mixing the toluene and the polyisobutylene into a liquid phase pre-mixture;

mixing the manganese dioxide and carbon black into a solid phase pre-mixture;

checking a quality of both the solid and liquid phase pre-mixtures;

mixing the solid phase pre-mixture and liquid phase pre-mixture into a cathode slurry mixture;

filtering the cathode slurry mixture;

storing the cathode slurry mixture;

recirculating the cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the stored cathode slurry mixture;

distributing the filtered cathode slurry mixture into the cavity of the laminar structure; and

drying the cathode slurry mixture to form a biocompatible cathode for use in a biocompatible battery.

17. A method for manufacturing a biomedical device cathode slurry comprising the steps of:

mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the cathode slurry mixture; and

distributing the cathode slurry mixture into the cavity of the laminar structure forming the cathode slurry for use in a biomedical device;

wherein the biomedical device comprises an insert device comprising:

an electroactive element responsive to a controlling voltage signal;

a biocompatible battery;

wherein the biocompatible battery comprises:

a first and second electrode;

an anode;

a separator;

a laminar structure, wherein at least one layer of the laminar structure has a volume removed to form a cavity; and

the cathode slurry wherein at least an average molecular size of one component of the cathode slurry is reduced in particle size by milling said component; and

wherein the cathode slurry is capable of filling the cavity, based on its rheology,

while maintaining electroconductivity through the laminar structure in the cavity; and

a circuit electrically connected to a biocompatible battery, wherein the circuit provides the controlling voltage signal.

18. The method according to claim 17, wherein the biomedical device is a contact lens.

19. A method of manufacturing a biomedical device cathode slurry mixture comprising the steps of:

mixing one or more of a liquid phase pre-mixture with one or more of a solid phase pre-mixture into a cathode slurry mixture;

obtaining a laminar structure wherein the laminar structure has a volume removed to form a cavity;

filtering the cathode slurry mixture; and

distributing the cathode slurry mixture into the cavity of the laminar structure forming the cathode slurry mixture for use in a biomedical device;

wherein the biomedical device comprises:

an insert device comprising:

an electroactive element responsive to a controlling voltage signal;

a biocompatible battery;

wherein the biocompatible battery comprises:

a first and second electrode;

an anode;

a separator; and

the cavity for storing a cathode mixture;

wherein the cathode mixture is capable for storage, based on its rheology, while maintaining electroconductivity and biocompatibility;

wherein the cathode slurry mixture comprises:

manganese dioxide;

graphite;

polyisobutylene (PIB);

toluene; and

wherein at least an average molecular size of one component of the cathode mixture is reduced in particle size by milling said component; and

a circuit electrically connected to the biocompatible battery wherein the circuit provides the controlling voltage signal.