CLAIMS

1. A method for securing upon emergency an electrolyte solution present in an electrochemical cell(s) compartment(s) of a battery, and optionally in an electrolyte compartment connected to said battery, said method comprising: adding a reagent to said electrolyte solution, wherein said reagent and said electrolyte interact in said cell(s) compartment(s), and optionally in said electrolyte compartment, such that following said interaction, a porous solid, foam or gel is formed in said electrochemical cell(s) compartment(s) and optionally in said electrolyte compartment, such that said electrolyte cannot flow and spill from said electrochemical cell(s) compartment(s), and optionally from said electrolyte compartment.

2. The method of claim 1, wherein said reagent comprises a foam, a gel, a porous material, or a precursor thereof.

3. The method of claim 1, wherein said reagent forms a porous solid or semi-solid material such that said electrolyte solution is contained in the pores of said material and wherein said reagent is a polymer or a polymer precursor.

4. The method of claim 3, wherein said polymer or polymer precursor comprises isocyanate or polyisocyanate, isocyanourate or polyisocyanourate or compositions thereof, polyisocyanate prepolymer or polyisocyanourate prepolymer.

5. The method of claim 4, wherein said porous solid material formed from said isocyanate or polyisocyanate, isocyanourate or polyisocyanourate, polyols, and compositions thereof, polyisocyanate prepolymer or polyisocyanourate prepolymer is polyurethane foam.

6. The method of claim 1, wherein prior to addition of said reagent to said electrolyte, said electrolyte is kept in said electrochemical cell(s) compartment(s) and optionally in said electrolyte compartment, and said reagent is kept in a reagent compartment and wherein said electrochemical cell(s) compartment(s) and optionally said electrolyte compartment are placed in contact or are connected by a connection to said reagent compartment; and

   wherein the area of said contact between said electrochemical cell(s) compartment(s) and optionally said electrolyte compartment and between the reagent

compartment or a portion thereof is opened upon emergency such that materials from said electrochemical cell(s) compartment(s) and optionally from said electrolyte compartment and materials from said reagent compartment are mixed.

7. The method of claim 6, wherein said reagent compartment further comprises a gas propellant, said gas propellant facilitating transfer of said reagent from said reagent compartment to said electrochemical cell(s) compartment(s) and optionally to said electrolyte compartment.

8. The method of claim 1, wherein said reagent is absorbent.

9. The method of claim 8, wherein said reagent forms a gel upon contact with said electrolyte.

10. The method of claim 8, wherein said reagent comprises superabsorbent polymers that can absorb between 50- 500 times their weight.

11. The method of claim 10, wherein said superabsorbent polymers comprise cellulose-based polymers, polyacrylate-based polymers, polyacrylonitrile-based polymers, combinations thereof and compositions thereof.

12. A system comprising:
    - a battery comprising electrochemical cell(s) compartment(s) and optionally an electrolyte compartment; and
    - a storage unit for storing a reagent;

    wherein said storage unit is in contact with or is connected by a connection to said electrochemical cell(s) compartment(s), to said electrolyte compartment or to a combination thereof; and

    wherein the area or portions thereof of said contact or connection between said storage unit and between said electrochemical cell(s) compartment(s), said electrolyte compartment or a combination thereof, comprises an opening and is opened upon emergency such that material from said storage unit is mixed with electrolyte within said electrochemical cell(s) compartment(s), within said electrolyte compartment or within a combination thereof, and wherein said electrolyte does not spill from said electrochemical cell(s) compartment(s), nor optionally from said electrolyte compartment.

13. The system of claim 12, wherein said storage unit further comprises a gas propellant such that said gas propellant facilitates ejection of said reagent from said storage unit and into said electrochemical cell(s) compartment(s), to said electrolyte compartment or to a combination thereof.

14. The system of claim 12, wherein said connection is closed and upon an emergency or accident, said connection is turned open, and wherein upon opening of said connection, said reagent is transferred spontaneously into said electrochemical cell(s) compartment(s), into said electrolyte compartment or to a combination thereof.

15. The system of claim 12, wherein said reagent forms a porous solid or semi-solid material, a gel or foam upon contact with said electrolyte.