Claims

1. A fuel supply apparatus comprising;

a reaction chamber for hosting a reaction when a fuel generating fluid and a fuel generating substance are brought together to generate fuel,

a plurality of discrete fuel generating fluid chambers~~, each chamber being separately rupturable~~ comprising a plurality of sealed bladders formed in a sheet, each bladder containing fuel generating fluid and being separately rupturable; and,

a heater assembly adapted to, when in use, selectively rupture the fuel generating fluid chambers to supply fuel generating fluid to the reaction chamber.

2. A fuel supply apparatus as defined in claim 1, in which the fuel generating fluid comprises an activation fluid and the fuel generating substance comprises a fuel source, wherein ~~the~~ a reaction between the activation fluid and the fuel source will generates fuel.

3. A fuel supply apparatus as defined in claim 1 or 2, in which the heater assembly comprises a plurality of heaters arranged such that each fuel generating fluid chamber is associated with at least one heater for heating, and thereby rupturing, said fuel generating fluid chamber.

4. A fuel supply apparatus as defined in claim 3, in which the heaters either form part of the plurality of discrete fuel generating fluid chambers; or~~.~~

~~5. A fuel supply apparatus as defined in claim 3, in which the heaters~~ are formed on part of the fuel supply apparatus, the heaters configured such that they can be selectively activated and arranged adjacent the plurality of discrete fuel generating fluid chambers.

~~6. A fuel supply apparatus as defined in any preceding claim, in which the discrete fuel generating fluid chambers comprise a plurality of sealed bladders formed in a sheet, each bladder containing fuel generating fluid and being separately rupturable.~~

~~7~~5. A fuel supply apparatus as defined in claim ~~6~~1, in which the sheet is of at least two layers, the two layers sealed together at localised portions to define the plurality of bladders.

~~8~~6. A fuel supply apparatus as defined in claim ~~6~~ 1 or claim ~~7~~5, in which the heater assembly is printed onto the film sheet.

~~9. A fuel supply apparatus as defined in claim 4 or claim 8, in which the heater assembly includes power receiving terminals for electrically connecting to the fuel supply apparatus for receiving power therefrom.~~

~~10~~7. A fuel supply apparatus as defined in any preceding claim, in which the heater assembly is configured to heat the fuel generating fluid as well as rupture the fuel generating fluid chambers.

~~11~~8. A fuel supply apparatus as defined in any preceding claim, in which the apparatus includes a fluid flow control device to control the rate at which fuel generating fluid is introduced to the reaction chamber.

~~12~~9. A fuel supply apparatus as defined in claim ~~11~~8, in which the fluid flow control device comprises an absorbent layer between the fuel generating fluid chambers and the reaction chamber.

~~13~~10. A fuel supply apparatus as defined in any preceding claim, in which each heater has two terminals, a common terminal and an individual terminal, each of the common terminals being connected to a common shared conductor, wherein each one of the heaters are configured to be activated by supplying power between the shared conductor and its individual terminal.

~~14~~11. A fuel supply apparatus as defined in any preceding claim, in which the fuel generating fluid chambers and associated heaters are arranged in a grid, the grid comprising rows and columns, and including a shared conductor for each row and a shared conductor for each column, the heaters connected to the shared conductor for the row in which they are positioned and connected to the shared conductor for the column in which they are positioned, the grid configured such that a particular heater can be activated by supplying power between the shared conductors of its row and column.

~~15~~12. A fuel supply apparatus as defined in any preceding claim, in which the fuel supply apparatus includes a fuel generating fluid chamber pressurisation assembly for applying pressure to the fuel generating fluid in the chambers comprising;

a bias member to physically press against the chambers; or

a mount to stretch a film sheet in which the chambers are formed.

~~16. A fuel supply apparatus as defined in claim 15, in which the pressurisation assembly comprises a bias member to physically press against the chambers,~~

~~17. A fuel supply apparatus as defined in claim 15, in which the pressurisation assembly comprises a mount to stretch a film sheet in which the chambers are formed.~~

~~18. A fuel supply apparatus as defined in any preceding claim, in which the fluid supply apparatus includes a controller configured to monitor the demand for fuel and, in response to the monitored demand, rupture at least one fuel generating fluid chamber.~~

~~19. A fuel supply apparatus as defined in claim 1, in which the fuel supply apparatus is a hydrogen fuel supply apparatus.~~

~~20~~13. A fluid store configured to be used with the fuel supply apparatus of any one of claims 1 to ~~19~~12, the fluid store comprising a plurality of discrete fuel generating fluid chambers, each fluid chamber containing fuel generating fluid and being separately rupturable~~,~~ wherein

~~21. A fluid store as defined in claim 20, in which~~ the discrete fuel generating fluid chambers comprise a plurality of sealed bladders formed on a sheet, each bladder containing fuel generating fluid and being separately rupturable.

~~22~~14. A fluid store as defined in claim ~~21~~13, in which the sheet is of at least two film layers, the layers sealed together at localised portions to define the plurality of bladders.

~~23. A fluid store as defined in any of claims 20 to 22, in which the fluid store includes a heater assembly comprising a plurality of heaters, each fuel generating fluid chamber associated with at least one heater.~~

~~24~~15. A method of supplying a fuel for use in a fuel cell, the method including the steps of;

providing a plurality of discrete fuel generating fluid chambers~~, each fluid chamber containing fuel generating fluid and being separately rupturable~~comprising a plurality of sealed bladders formed in a sheet, each bladder containing fuel generating fluid and being separately rupturable;

providing a fuel generating substance which, in combination with the fuel generating fluid, can generate a fuel; and

rupturing at least one fuel generating fluid chamber to transfer the fuel generating fluid to the fuel generating substance for generating the fuel.

25. A fuel supply apparatus as described herein and as illustrated in Figures 1 to 5 of the drawings.

26. A fluid store as described herein and as illustrated in Figures 1 to 5 of the drawings.

27. A method as described herein and as illustrated in Figure 6 of the drawings.