CLAIMS

1. An ultra-violet (UV) light sterilisable fluid-guiding element for bioprocessing applications which is configurable to form a part of a closed fluid system, at least a portion of the element being formed from a material which is transmissive to UV light, said at least one portion of the element including one or more surfaces configured to contact and guide fluids within the closed system in use, the element further including at least one UV light emitting diode (LED) mounted in, on, or adjacent the at least one portion and having sufficient light output to sterilise at least the one or more surfaces , said fluid-guiding element comprising a body or a housing that is configured to reflect UV light into at least one void or joint which could harbour microorganisms.

2. The fluid-guiding element of claim 1, wherein the LED emits light of a wavelength of 100 to 280 nanometres.

3. The fluid-guiding element of claim 2, wherein the LED emits light of a wavelength of 260 nanometres.

4. The fluid-guiding element of any one of claims 1 to 3, wherein the material transmits 5% or more of the UV light per mm light propagation distance.

5. The fluid-guiding element of claim 4, wherein the material transmits more than 10% of the UV light per mm light propagation distance.

6. The fluid element of claim 4, wherein the material transmits more than 20% of the UV light per mm light propagation distance.

7. The fluid-guiding element of any one of the preceding claims, wherein the material is glass, for example a quartz glass, or is a polypropylene (PP) or a polymethyl methacrylate (PMMA), or a polydimethylsiloxane (PDMS), or a polyimide (PI) for example fluorinated PI, or a combination of said materials.

8. The fluid-guiding element of any one of the preceding claims, wherein said fluid-guiding element is one or more of: of a fluid connector, a tube coupler, a removeable fluid transfer port, a valve, a fluid sampling interface, a removable sensor port, a bung, or an element at a location where it is possible for microorganisms to cross from an outside environment into the closed fluid system, or an element at a location where conventional pre-sterilising is ineffective.

9. The fluid-guiding element of any one of the preceding claims, wherein the body comprises said one or more surfaces configured to contact and guide fluids and wherein the body supports a circuit for operating the at least one LED.

10. The fluid-guiding element of claim 9, wherein the circuit is provided within an extension of the body.

11. The fluid-guiding element of claim 9 or 10, wherein the circuit comprises a push to make switch, a UV LED, a battery, and a current limiting resistor.

12. The fluid-guiding element of any one of claims 9 to 11 wherein an external surface of the body includes a highly reflective region for back-reflecting UV light.

13. The fluid-guiding element of any one of claims 9 to 12 further including a shroud for support said circuit.

14. The fluid-guiding element of claim 13, wherein the shroud has a reflective surface adjacent the body for back-reflecting UV light.

15. The fluid-guiding element claim 10, wherein the reflective surface comprises a polished and metal plated surface or an internally mirrored surface.

16. A method for maintaining the sterility of a closed fluid system for bioprocessing applications, the method including the steps of:

a) opening the fluid system at the fluid-guiding element of any one of the preceding claims, which has at least a portion of the element making contact with the fluid;

b) closing the fluid system at the element; and

c) sterilising the portion of the element by means of UV light transmitted to the portion making fluid contact by propagation through the element, before and/or during and/or after closing.

17. The method of claim 16 wherein said UV light is light from an LED having an output wavelength of 100 to 280 nanometres.

18. The method of claim 17, wherein the LED has an output wavelength of 260 nanometres.