CLAIMS

1. A disinfectant system comprising:

(a) a first part comprising a first reagent in a carrier medium; and

(b) a second part which is miscible with the first part and which comprises a second reagent in a carrier medium;

wherein the first reagent and the second reagent will react when the first and second parts are mixed to provide a chlorine dioxide disinfecting composition;

characterised in that

the first part or the second part further comprises a dyestuff that oxidises in the presence of chlorine dioxide to produce a visible colour change upon mixing of the first part with the second part;

wherein said colour change does not occur upon exposure of the dyestuff-containing part to a hydrogen peroxide disinfectant and/or a peracetic acid disinfectant;

wherein the dyestuff is: ~~an anthocyanin dyestuff, an anthocyanidin dyestuff, or a betanin dyestuff~~

an anthocyanin dyestuff selected from the group consisting of black carrot extract, purple carrot extract, haskapa berry extract, and blackcurrant extract;

an anthocyanidin dyestuff selected from the group consisting of bilberry extract and blue pea extract; or

a betanin dyestuff selected from the group consisting of red beetroot powder and beetroot juice concentrate.

~~2. A disinfectant system according to Claim 1, wherein the dyestuff is black carrot extract.~~

~~3. A disinfectant system according to Claim 1, wherein the dyestuff comprises an anthocyanin dyestuff selected from the group consisting of purple carrot extract, haskapa berry extract, and blackcurrant extract.~~

~~4. A disinfectant system according to Claim 1, wherein the dyestuff comprises is an anthocyanidin dyestuff selected from the group consisting of bilberry extract~~

~~and blue pea extract.~~

~~5. A disinfectant system according to Claim 1, wherein the dyestuff comprises a betanin dyestuff selected from the group consisting of red beetroot powder and beetroot juice concentrate.~~

~~6.~~2. A disinfectant system according to ~~any of the preceding claims~~Claim 1, wherein the dyestuff changes from coloured to colourless in the presence of chlorine dioxide.

~~7.~~3. A disinfectant system according to ~~any of the preceding claims~~ Claim 1 or Claim 2, wherein the first reagent comprises a metal chlorite and the second reagent comprises an acid.

~~8.~~4. A disinfectant system according to any of the preceding claims, wherein the first part is contained in a dispenser whereby it may be dispensed as a fluid.

~~9.~~5. A disinfectant system according to any of the preceding claims, wherein the second part is absorbed or impregnated in at least one wipe.

~~10.~~6. A disinfectant system according to any of Claims 1 to ~~8~~5, wherein the first part and the second part each comprise liquids.

~~11.~~7. A disinfectant system according to any of Claim 1 to ~~8~~5, wherein the first part and the second part each comprise foams.

~~12.~~8. A disinfectant system according to any of the preceding claims, wherein the second part comprises the dyestuff.

~~13.~~9. A disinfectant system according to any of the preceding claims, wherein the first part or the second part comprises between about 0.1 wt% and about 2 wt% of the dyestuff.

~~14.~~10. A disinfectant system according to any of the preceding claims, wherein, after mixing of the first reagent with the second reagent, substantially all of the dyestuff is oxidised by the resulting chlorine dioxide.

~~15.~~11. A disinfectant system according to any of the preceding claims, wherein said colour change does not occur upon exposure of the dyestuff-containing part to a quaternary ammonium compound-based disinfecting composition.

~~16.~~12. A disinfectant system according to any of the preceding claims, wherein said colour change does not occur upon exposure of the dyestuff-containing part to a triamine-based disinfecting composition.

~~17.~~13. A method of verifying the production of a chlorine dioxide disinfecting composition using the disinfectant system of any of the preceding claims, the method comprising:

mixing the first part and the second part;

during mixing of the first part and the second part, observing said colour change; and

determining that the chlorine dioxide disinfecting composition has been produced when said colour change is complete and spatially uniform.

~~18.~~14. A method of determining whether a wipe of the disinfectant system of Claim ~~9~~5 or of any of claims ~~12~~8 to ~~16~~12 when dependent on Claim ~~9~~5 contains chlorine dioxide, the method comprising:

illuminating at least one surface region of the wipe with at least one wavelength of light;

determining an intensity value by measuring the intensity of the at least one wavelength of light reflected from at least one surface region of the wipe, said wavelength corresponding to a wavelength absorbed by the dyestuff;

comparing the intensity value with a preset threshold value; and

signalling that the wipe contains sufficient chlorine dioxide if the intensity value is at or above the threshold value; or

signalling that the wipe contains insufficient chlorine dioxide if the intensity

value is below the threshold value.

~~19.~~15. A method according to Claim ~~18~~14, wherein the step of determining the intensity value comprises measuring the intensity of at least one wavelength of light reflected from a plurality of surface regions of the wipe and calculating the intensity value as the mean average of each measurement.

~~20.~~16. Apparatus for performing the method of Claim ~~18~~14 or Claim ~~19~~15, comprising:

a device for measuring, from at least one surface region of a wipe, an intensity value of at least one wavelength of light corresponding to a wavelength absorbed by the dyestuff;

a comparator device for comparing the intensity value with a preset threshold value; and

a signalling device for signalling that a wipe contains sufficient chlorine dioxide if the intensity value is at or above the threshold value; or

signalling that the wipe contains insufficient chlorine dioxide if the intensity value is below the threshold value.

~~21.~~17. Apparatus according to Claim ~~20~~16, comprising a lamp for illuminating the at least one surface region of the wipe with the at least one wavelength of light.

~~22.~~18. Apparatus according to Claim ~~20~~16 or Claim ~~21~~17, further comprising a component for calculating the intensity value as the mean average of a plurality of intensity measurements.