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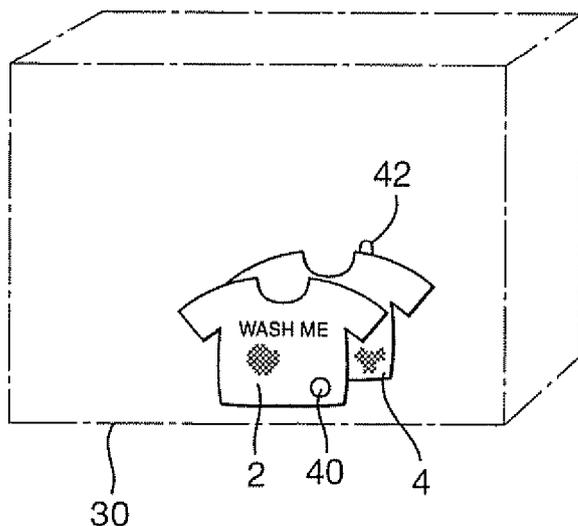
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(54) **Title:** FABRIC WHITENESS MEASUREMENT SYSTEM

Fig.2.



(57) **Abstract:** A whiteness measurement system comprising at least one pair of corresponding fabric whiteness guides, the or each pair comprising a first fabric whiteness guide to be washed with a detergent composition comprising a build-up shading agent and a second fabric whiteness guide to be dry-stored, wherein the guides comprise corresponding white fabric. The invention is also directed to a method of consumer measurement of fabric whiteness following a washing operation involving a build up shading agent, the method using the fabric whiteness guide, and including the steps of: (a) washing a first whiteness guide with a laundry composition, (b) dry storing a second whiteness guide, followed by the step of (b) comparing the whiteness of the washed first whiteness guide with that of the second whiteness guide to ascertain whether the washed first whiteness guide shows an improved whiteness as compared with the second whiteness guide.

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### **Fabric Whiteness Measurement System**

The present invention concerns a whiteness guide for monitoring whiteness of a fabric.

5 Fabric whiteness is often extremely valuable to consumers. Indeed, for some garments (e.g. expensive whitened suit shirts, uniforms) a high whiteness level is necessary so that any reduction is perceived as unacceptable. Many white garments yellow over multiple wash wear cycles. In order to maintain the white appearance shading dyes may be used.

10

Many garments yellow over multiple wash wear cycles, reducing the aesthetic value of the garment. In order to maintain the white appearance shading dyes may be used.

Direct dyes build up over multiple washes. To make this overshading acceptable lower level of dye must be used reducing the benefit which is perceived per wash. The

15

consumer then finds it difficult to judge whether there has been a benefit.

#### **SUMMARY OF INVENTION**

20 An objective is to provide a highly accurate device and method for in-home consumer monitoring of the changes in fabric whiteness and evaluation of the benefits of a laundry composition.

25 Accordingly, in a first aspect, the present invention provides a whiteness measurement system comprising an outer package containing a detergent composition comprising a build-up shading agent, and at least one pair of corresponding fabric whiteness guides, the or each pair comprising a first fabric whiteness guide to be washed with the detergent composition and a second fabric whiteness guide to be dry-stored, wherein the guides comprise corresponding white fabric.

30 The provision of a whiteness guide together with the washing powder comprising a build up shading agent enables the consumer to effectively monitor the effectiveness of the laundry formulation comprising the build up shading agent after each wash despite incremental benefits.

- 2 -

The monitoring is effected simply by adding the first whiteness guide to a laundry load, whilst storing the second whiteness guide and then comparing the two guides after the wash has completed. The dedicated guides are provided with the packaged composition simple to use, portable and realistic to the washing situation, the substrate is a washable  
5 fabric rather than printed card or plastic, and so colour comparison is more realistic.

In a second aspect, the invention provides a method of consumer measurement of fabric whiteness using the system of the first aspect and following a washing operation involving the build up shading agent, the method using the fabric whiteness guide of the first aspect  
10 and including the steps of:

(a) washing the first whiteness guide with the detergent composition,  
(b) dry storing the second whiteness guide, followed by the step of,  
(b) comparing the whiteness of the washed first whiteness guide with that of the second  
whiteness guide to ascertain whether the washed first whiteness guide shows an  
15 improved whiteness as compared with the second whiteness guide.

The terms "dry storing" and "dry-stored" as used herein, means storing in any suitable place but not washing or wetting. Preferably storage takes place out of sunlight, more preferably out of direct sunlight.  
20

Preferably the outer package and optionally the inner package comprise instructions for use according to the second aspect of the invention.

The step of comparing may take place after other events which affect washing, for  
25 instance drying of washed fabrics in a tumble dryer, outside.

Preferably the first whiteness guide is washed in an aqueous solution, which further preferably contains from 0.3 to 2.5g/L surfactant.

30 The build up shading agent is an agent for improving rejuvenating or maintaining whiteness. The agent may comprise one or more dyes or pigments for increasing perceived whiteness. Preferably the agent or agents together, has/have a peak absorption wavelength on the substrate fabric of 540 nm to 650 nm, and further preferably from 570 nm to 630 nm.

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Dyes which are substantive to fabrics "build-up" over successive multiple washes. These build-up dyes may comprise a direct dye so as to be substantive to cotton or they may comprise disperse and solvent dyes which are substantive to synthetic fibres e.g., polyester and nylon. The composition may contain a mixture of dyes so as to be substantive to both fibres.

5

#### **Build-Up Shading Dyes Substantive to Synthetics**

The dyes may comprise one or more hydrophobic dyes selected from benzodifuranes, methine, triphenylmethanes, naphthalimides, pyrazole, naphthoquinone, anthraquinone and mono-azo or di-azo dyes. Hydrophobic dyes are dyes which do not contain any charged water solubilising group. Hydrophobic dyes may be selected from the groups of disperse and solvent dyes.

10

The hydrophobic dyes are preferably blue or violet. Blue and violet anthraquinone and mono-azo dye are preferred.

15

Preferred dyes include Solvent Violet 13, disperse violet 27 disperse violet 26, disperse violet 28, disperse violet 63 and disperse violet 77. Most preferred hydrophobic dyes, are solvent violet 13 or disperse violet 27. These dyes give benefits to synthetic fibres such as elastane and polyester.

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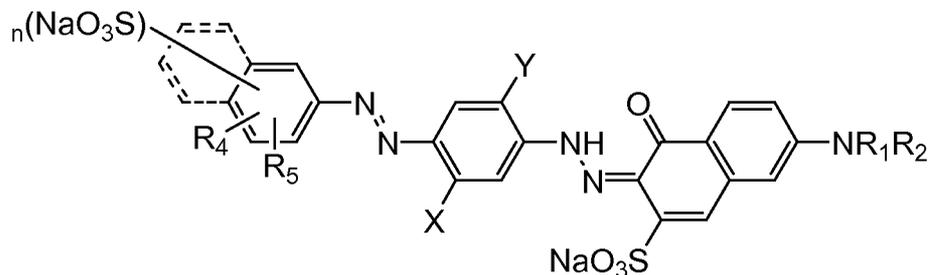
#### **Build-Up Shading Dyes Substantive to Cotton**

Direct violet and direct blue dyes are particularly useful for shading cotton containing fabrics. Preferably, the dyes are bis or tris - azo dyes. The carcinogenic benzidine based dyes are not preferred.

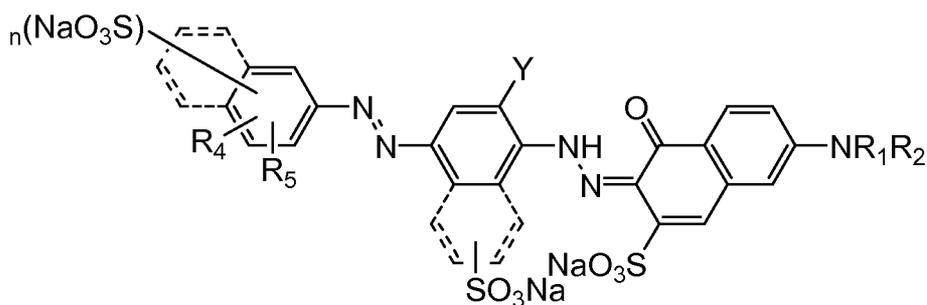
25

Most preferably, the direct dye is a direct violet of the following structure:

- 4 -



or



5

where

$R_1$  is hydrogen or alkyl

$R_2$  is hydrogen, alkyl or substituted or unsubstituted aryl, preferably phenyl

10  $R_3$  and  $R_4$  are independently hydrogen or alkyl

$X$  and  $Y$  are independently hydrogen, alkyl or alkoxy, preferably the dye has  $X$  = methyl and  $Y$  = methoxy.

$n$  is 0, 1 or 2, preferably 1 or 2.

15 Preferred dyes are direct violet 7, direct violet 9, direct violet 11, direct violet 26, direct violet 31, direct violet 35, direct violet 40, direct violet 41, direct violet 51, and direct violet 99.

In another embodiment, the direct dye may be covalently linked to a photobleach, for  
20 example as described in WO2006/024612.

Cu containing direct dyes such as direct violet 66 may also be used.

- 5 -

Shading pigments which deposit onto fabrics in the wash to give a blue, violet, blue/green or blue/violet hue may also be used. Pigments are coloured particles preferably of 0.05 to 10 micron size, which are practically insoluble in aqueous media that contain surfactants.

- 5 Inorganic pigments such as pigment blue 29 or pigment violet 15 may be used, however, organic pigments are preferred.

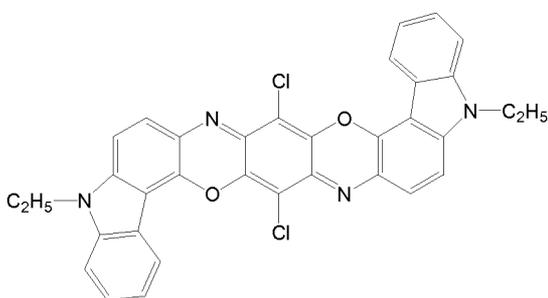
Pigment blue 1, 1:2, 1:3, 2, 2:1, 2:2, 3, 4, 5, 7, 10, 10:1, 11, 12, 13, 14, 15, 15:1, 15:2, 15:3, 15:4, 15:6. 18, 19, 20, 21, 22, 23, 25, 26, 27, 28, 29, 30, 31, 32, 34, 35, 36, 57, 58,  
10 59, 60, 61, 61:1, 62, 63, 64, 65, 66, 67, 69, 71, 72, 73, 74, 75, 80, 83 and pigment violet 3,, 3:1, 3:3, 3:4, 5, 7:1, 8, 9, 11, 12, 13, 14, 15, 16, 18, 19, 23, 25, 27, 28, 29, 31, 35, 37, 39, 41, 43, 44, 45, 47, 48, 50, 54, 55 and 56 may be used.

Preferred organic pigments are pigment violet 1, 1:1, 1:2, 2, 3, 5:1, 13, 19, 23, 25, 27, 31,  
15 32, 37, 39, 42, 44, 50 and Pigment blue 1, 2, 9, 10, 14, 15, 15:1, 15:2, 15:3, 15:4, 15:6, 16, 18, 19, 24:1, 25, 56, 60, 61, 62, 66, 75, 79 and 80.

More preferred pigments are pigment violet 3, 13, 23, 27, 37, 39, pigment blue 14, 25, 66 and 75.

20

The most preferred is pigment violet 23.



Pigment Violet 23

- 25 The shading dye may comprise a photobleach covalently linked to another blue or violet chromophore.

The shading dye may comprise a reactive dye covalently linked to a polymer or a solid particle.

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The product may also contain a non hueing dye which enables colouration of the product.

The shading dye may comprise a dye adsorbed onto a solid particle, such as clay.

- 5 The laundry composition preferably comprises one or more surfactants.

The laundry composition may contain predominately anionic surfactants. In this case dyes containing acid groups are preferred. For use in products which contain predominantly cationic surfactants, dyes containing basic groups are preferred. This is to prevent precipitation between the dye and surfactant.

10

Suitable dyes for use in products containing predominately anionic surfactants include those listed in the Colour Index as Direct Violet Dyes Direct Blue dyes, Acid Blue and Acid Violet dyes.

15

Dyes which may be metabolised to carcinogenic amines should not be used. For example dyes which when reduced release benzidine, 3,3'-dimethoxybenzidine, 3,3'-dimethylbenzidine or 3,3'-dichlorobenzidine should not be used.

- 20 The laundry composition may contain predominately cationic surfactants. Suitable dyes here include those listed in the Colour Index as Basic Blue and Basic Violet Dyes.

The level of dye in the laundry composition may be in the range from 0.000001 wt % to 0.01 wt % preferably in the range from 0.0001 to 0.01, and preferably 0.0002 to 0.005 wt%.

25

The dyes are preferably added to granular products via the surfactant slurry or via post-dosed granules.

- 30 If more than one dye is used then for a powder formulation it is preferred that the shading dyes are co-granulated.

All dye levels refer to pure dye.

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Preferably both guides have (before use) substantially common whiteness and preferably texture and further preferably the guides have (before use) identical whiteness and/or texture. The guides may comprise white portions along with coloured portions. The white portions preferably comprise 50% or more, and more preferably 75% or more of the total area of the guides.

5

Preferably both guides are of a common material, and/or shape and/or size for ease of comparison.

10 Most preferably the guides are (before use) identically visually.

The guides may be two parts of a common piece of fabric so that the first guide is dipped into a washing receptacle and washed, whilst the second guide simply hangs over the edge of the receptacle and remains unwashed.

15

Advantageously, first and second guides of one pair comprise identical fabrics. The fabric preferably comprises a fibre based on cellulose, polyester, nylon elastane, acrylic, cotton. Most preferably it comprises cellulosic cotton and polyester.

20 Preferably the fabric has a woven construction. Woven fabrics are classified as to weave or structure according to the manner in which warp and weft cross each other. The three fundamental weaves, of which others are variations, are the plain, twill, and satin. Further preferably the weave is plain and/or twill (as is used for denim fabrics).

25 The fabric is preferably washable preferably can withstand temperatures of the wash up to 90 degrees and drying temperature up to 150 degrees.

The or each guide is shaped and/or sized to be visually distinct from remaining laundry items, so it can be easily picked out from the laundry load after washing. Accordingly it may be substantially smaller or may be a visually distinct shape. Visually interesting shapes such as those defined by a perimeter of undulating curves distinguish the guide from remaining laundry items.

30

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The preferred size of the or each guide is less than 30 cm (height and/or width). This size allows ease of inclusion in a wash load, prevents the guides becoming lost in the washing load but is small enough to allow ease of handling for comparison.

- 5 The guides may be shaped to visually distinct from remaining laundry items; so the first guide can be easily picked out from the laundry load after washing and to enable easy dry-storage of the second guide. Accordingly they may be shaped to resemble known shapes: e.g. a horseshoe shape or iconic articles of clothing such as the T-shirt or a pair of trousers, jeans, shirt, jacket etc. The guides could be flat or 3D and include single or
- 10 multiple layers of substrate.

Where guides resemble clothing, preferably the waist line should be less than 15 cm and further preferably less than 10cm, any may be even less than 5 cm.

- 15 Preferably at least the first whiteness guide comprises one or more apertures. Such aperture or apertures may be defined by a strip of the guide so as to create a hook or loop. This offers the advantage of enabling the guide to be attached to a larger article which aids locating the guide at the end of the washing process.

- 20 The second whiteness guide may comprise a hook for ease of dry storage.

- The whiteness may be defined in terms of  $L^*a^*b^*$  values (the CIE LAB whiteness space, (CIE 1976  $L^* a^* b^*$ ), where  $L^*$  is the lightness value of the whiteness ( $L^*=0$  yields black and  $L^*=100$  yields white),  $a^*$  is the red-green value (negative values indicate green while positive values indicate red) and  $b^*$  is the yellow-blue value (negative values indicate blue and positive values indicate yellow).
- 25

$L^*_{max}$  is in the range 70-100, preferably 85-99, more preferably 92-99.

$a^*_{max}$  is in the range -5 to +5, preferably -2 to + 2, more preferably -1 to +1.

- 30  $b^*_{max}$  is in the range -10 to +10, preferably -2 to +8 and more preferably 0 to +5.

The guide may be constructed with a 3-dimensional section or sections. This can aid retrieval after the washing process has been completed. The 3-dimensional section/s may be formed by an arrangement of sections or panels attached e.g. by stitching.

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Preferably the guide is sufficiently flexible so it can flex to lie against a flexible substrate such as fabric. This has the advantage that the guide can be easily flexed to conform to the shape of a garment to carry out the whiteness comparison.

- 5 The guide may be perfumed, and the perfume of the guide may be the same as or correspond with the perfume of the laundry composition. Perfumed guides (either as provided in the package or after washing with a perfumed laundry composition) may be hung in wardrobes etc to fragrance stored fabrics or clothes.
- 10 Accordingly in a further aspect the invention provides use of one or more guides of the first aspect, as a fragrancing device to improve the fragrance of stored fabrics and/or articles. The use of a perfumed guide incorporating a hook or aperture to enable hanging up of the guide is especially advantageous in this regard.
- 15 For ease of incorporation into laundry products it is preferred if the shading dye is supplied in a liquid form.

The level of dye in the laundry composition may be in the range from 0.000001 wt % to 0.01 wt % preferably in the range from 0.0001 to 0.01 wt%.

20

The composition may comprise a fluorescent agent (optical brightener). Fluorescent agents are available commercially. The fluorescent agent may be supplied and used in the form of their alkali metal salts, for example, the sodium salts. The total amount of the fluorescent agent or agents used in the composition may be generally from 0.005 to 2 wt

25

%, preferably 0.01 to 0.1 wt %.

Preferred classes of fluoescer are: Di-styryl biphenyl compounds, e.g. Tinopal (Trade Mark) CBS-X, Di-amine stilbene di-sulphonic acid compounds, e.g. Tinopal DMS pure Xtra and Blankophor (Trade Mark) HRH, and Pyrazoline compounds, e.g. Blankophor

30

SN. Preferred fluoescers are: sodium 2 (4-styryl-3-sulfophenyl)-2H-naphthol[1,2-d]trazole, disodium 4,4'-bis{[(4-anilino-6-(N methyl-N-2 hydroxyethyl) amino 1,3,5-triazin-2-yl)]amino}stilbene-2-2' disulfonate, disodium 4,4'-bis{[(4-anilino-6-morpholino-1,3,5-triazin-2-yl)]amino} stilbene-2-2' disulfonate, and disodium 4,4'-bis(2-sulfoslyryl)biphenyl.

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The laundry composition and whiteness guide may include a common shading dye or fluorescer, as described above.

The present invention relates to compositions which are used to treat laundry items such as clothes. Such compositions are preferably laundry detergent compositions used for washing (especially particulate detergents, liquid detergents, laundry bars, pastes, gels or tablets), laundry fabric conditioners used for softening fabrics, pre-treatment products, post-treatment products, tumble dryer products, ironing products etc. Preferably they are laundry treatment products which are applied in an aqueous environment.

Various non-limiting embodiments of the invention will now be more particularly described with reference to the following figures in which:

Figure 1 shows, schematically, a fabric whiteness measurement system according to embodiments of the invention, together with a laundry load;

Figure 2 shows a package and a pair of whiteness guides of figure 1; and

Figure 3 shows an alternative shaped whiteness guide.

Referring to figure 2, a fabric whiteness measurement system according to the third aspect of the invention is shown, comprising one pair of corresponding whiteness guides 2,4 comprising a first whiteness guide 2 to be washed ( with "wash me" indicia, which may be in text or by other visual indicia) and a second whiteness guide 4 to be dry stored (in a dry place, without be washed or wetted and out of direct or strong sunlight). Visual indicia could be included on the second whiteness guide to inform the consumer of the storage requirements.

The measurement system comprises a package 30 containing a laundry composition (not shown) in combination with a fabric whiteness measurement system of the invention. The pack 30 contains 1kg of laundry composition A or B or C or D (detailed hereinbelow).

Instructions for use of said fabric whiteness measurement system are included on the packaging, inside (on a leaflet) and on the guides themselves.

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The consumer uses the measurement system as schematically shown in figure 1, by:

(a) washing the first whiteness guide 2, such as placing in a washing machine 10 along with a laundry load 20,

(b) dry storing the second whiteness guide 4, followed by the step of

- 5 (b) comparing the whiteness of the washed first whiteness guide 2 with the whiteness of the second whiteness guide 4 to monitor improvement in whiteness of the first guide compared to the second guide.

10 The arrangement allows the consumer to compare the washing/conditioning compositions of the compositions. The monitoring is effected simply by adding the first whiteness guide to a laundry load, whilst storing the second whiteness guide and then comparing the two guides after the wash has completed.

15 The provision of a whiteness guide together with the washing powder enables the consumer to effectively monitor the effectiveness of the composition and thereby appreciate the benefit of whiteness agents added to the washing powder.

20 The step of comparing may take place after events which follow a washing operation, for instance drying of washed fabrics in a tumble dryer, outside, in sunlight or in shade.

Both guides 2,4 shown are visually identical. They of identical size and shape and texture, comprise identical fabric (weft, warp, weave construction), and identical whiteness.

25 The guides comprise a washable fabric, and preferably cotton and polyester. This has a woven construction, the weave being plain.

30 The fabric can withstand (physically) temperatures of the wash up to 90 degrees and drying temperature up to 150 degrees.

The guides are shaped to be visually distinct from remaining laundry items, allowing the first guide to be easily picked out from the laundry load after washing and the second guide to be easily dry-shaped. Accordingly they are shaped to resemble iconic articles of clothing such as the T-shirt (or a pair jeans etc.) but very small size as compared with the

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normal size of such articles. The waist and height is less than 30cm and in this embodiment is 10cm.

5 An alternatively visually interesting shape for guides 2 and 4 is shown in figure 3, and this comprises a perimeter of undulating curves with resultant projections. This configuration visually distinguishes the guide from normal laundry items and the projections enable the user to more easily grasp the guide and pull it from a pile of wet or dry laundry which may have become tangled.

10 The first whiteness guide of figures 2 and 3 comprises a hole 40 for attachment to e.g. button of larger article to aid retrieval after the washing process has finished. The second guide has a loop 42 to aid dry storage (e.g. on a clothes horse or frame or door knob).

15 The or each whiteness is defined in terms of  $L^*a^*b^*$  values (the CIE LAB whiteness space, (CIE 1976  $L^* a^* b^*$ ), where  $L^*$  is the lightness value of the whiteness ( $L^*=0$  yields black and  $L^*=100$  yields white),  $a^*$  is the red-green value (negative values indicate green while positive values indicate red) and  $b^*$  is the yellow-blue value (negative values indicate blue and positive values indicate yellow).

**Exemplary Base Powder Formulations A, B, C and D**

<b>Formulation</b>	<b>A</b>	<b>B</b>	<b>C</b>	<b>D</b>
NaLAS	15	20	10	14
NI(7EO)	-	-	-	10
Na tripolyphosphate	-	15	-	-
Soap	-	-	-	2
Zeolite A24	7	-	-	17
Sodium silicate	5	4	5	1
Sodium carbonate	25	20	30	20
Sodium sulphate	40	33	40	22
Carboxymethylcellulose	0.2	0.3	-	0.5
Sodium chloride	-	-	-	5
Lipase	0.005	0.01	-	0.005
Protease	0.005	0.01	-	0.005
Amylase	0.001	0.003	-	-
Cellulase	-	0.003	-	-
Solvent violet 13	0.003	0.004	0.002	0.001
Fluorescer	0.1	0.15	0.05	0.3
Water/impurities/minors	remainder	remainder	remainder	remainder

The dye was added via a zeolite/non-ionic (7EO) granule, which contained 0.25% by  
5 weight solvent violet 13 dissolved in the non-ionic.

Enzyme levels are given as percent pure enzyme. Levels of dye are given as pure dye.  
NI(7EO) refers to R-(OCH<sub>2</sub>CH<sub>2</sub>)<sub>n</sub>OH, where R is an alkyl chain of C<sub>12</sub> to C<sub>15</sub>, and n is 7.  
NaLAS is linear alkyl benzene sulphonate (LAS) and (SLES(3EO)) is C<sub>12</sub>-C<sub>18</sub> alkyl  
10 polyethoxylate (3.0) sulphate.

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It is of course to be understood that the invention is not intended to be restricted to the details of the above embodiment which are described by way of example only.

**Claims**

1. A whiteness measurement system comprising an outer package containing a detergent composition comprising a build-up shading agent, and at least one pair of  
5 corresponding fabric whiteness guides, the or each pair comprising a first fabric whiteness guide to be washed with the detergent composition and a second fabric whiteness guide to be dry-stored, wherein the guides comprise corresponding white fabric.
- 10 2. A system according to claim 1 characterised in that the guides are contained within an inner package, contained internally within the outer package.
3. A system according to any preceding claim in which the inner package is hermetically sealed.
- 15 4. A system according to any of claims 2-3 in which the inner package is provided loose within the outer package.
5. A system according to claim 4 in which the detergent composition is a free flowing  
20 powder.
6. A system according to any preceding claim wherein the fabric comprises a fibre based on cellulosics, polyester, nylon elastane, acrylic, cotton.
- 25 7. A system according to any preceding claim wherein the guides are defined by a perimeter of undulating curves.
8. A method of consumer measurement of fabric whiteness following a washing operation involving a build up shading agent, the method using a fabric whiteness guide  
30 of any of claims 1-7, and including the steps of:
  - (a) washing a first whiteness guide with a laundry composition,
  - (b) dry storing a second whiteness guide, followed by the step of

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(b) comparing the whiteness of the washed first whiteness guide with that of the second whiteness guide to ascertain whether the washed first whiteness guide shows an improved whiteness as compared with the second whiteness guide.

- 5 9. A method according to claim 8 wherein the step of comparing takes place following washing the first whiteness guide with a laundry composition.

Fig.1.

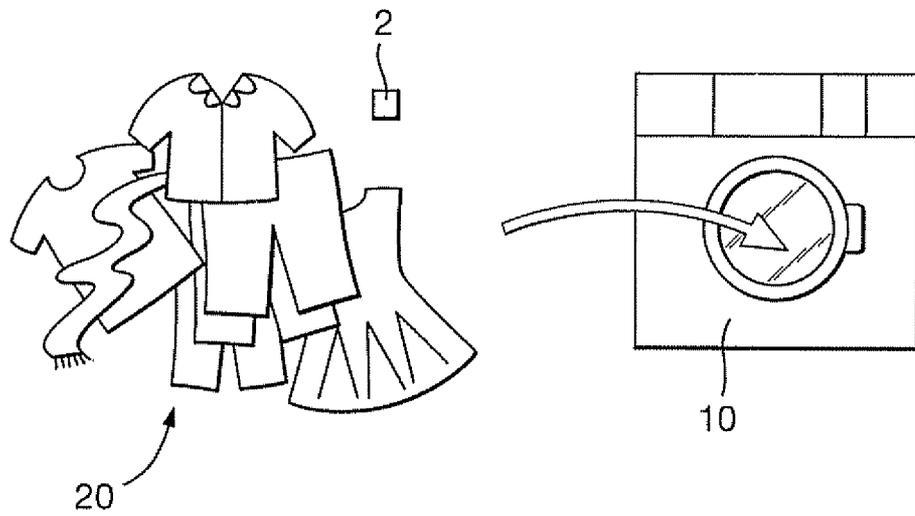


Fig.2.

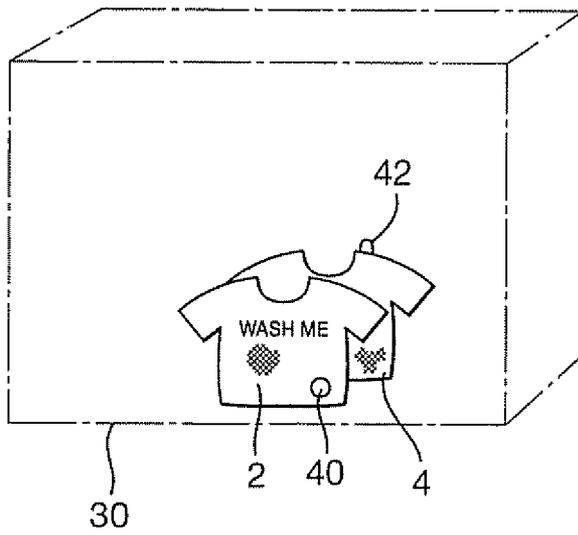
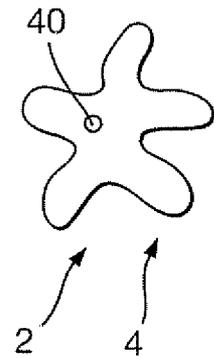


Fig.3.



**INTERNATIONAL SEARCH REPORT**

International application No  
PCT/EP2009/064740

**A. CLASSIFICATION OF SUBJECT MATTER**

INV. C11D3/40 C11D17/04 G01N21/29 G01N33/36

According to International Patent Classification (IPC) or to both national classification and IPC

**B. FIELDS SEARCHED**

Minimum documentation searched (classification system followed by classification symbols)  
C11D G01N

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, WPI Data

**C. DOCUMENTS CONSIDERED TO BE RELEVANT**

Category*	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	US 4 652 403 A (MAY BRONISLAV A ET AL) 24 March 1987 (1987-03-24) column 5, line 3 - line 10	1-9
X	US 3 991 104 A (NIELSEN DONALD R) 9 November 1976 (1976-11-09) example II	1-9
X	US 2004/224872 A1 (FINE DAVID A ET AL) 11 November 2004 (2004-11-11) paragraph [0197] - paragraph [0200]	1-9
X	US 7 097 715 B1 (RACETTE TIMOTHY L ET AL) 29 August 2006 (2006-08-29) column 22, line 54 - column 23, line 26	1-9

Further documents are listed in the continuation of Box C.

See patent family annex.

\* Special categories of cited documents :

"A" document defining the general state of the art which is not considered to be of particular relevance

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"P" document published prior to the international filing date but later than the priority date claimed

"T" later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

"X" document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone

"Y" document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.

"&" document member of the same patent family

Date of the actual completion of the international search

4 February 2010

Date of mailing of the international search report

15/02/2010

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# INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No PCT/EP2009/064740
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