

BACKGROUND

The Hong Kong Green Label Scheme (HKGLS) is an independent and voluntary scheme which aims to identify products that are, based on life cycle analysis consideration, more environmentally preferable than other similar products with the same function. The Scheme is organized by the Green Council (GC) with contributions from the HKGLS Advisory Committee and a number of supporting organizations.

The prime objectives of HKGLS are:

- **For Consumers:** assist in making purchases of products that are less harmful to the environment;
- **For Industry:** stimulate development and production of environmentally preferable alternatives.

This specification sets out the requirements that products using recycled materials will be required to meet in order to be licensed to use the HKGLS label. The requirements include environmental criteria and product characteristics. The specification also defines the testing and other means to be used to verify conformance with the environmental criteria and product characteristics.

The Product Environmental Criteria are based primarily on the ecolabelling criteria for awarding of the European Union's ecolabel for textile products in accordance with the European Commission's Decision 2002/371/EC of 15 May 2002 establishing the ecological criteria for the award of the European Community eco-label to textile products and amending Decision 1999/178/EC.

POTENTIAL ENVIRONMENTAL IMPACTS

Textile products have the potential to create significant environmental and human health impacts. These range from agricultural practices such as the use of biocidal agents in the production of natural textile fibres, to oxygen depleting substances emitted to waterways during manufacturing processes, to skin irritation during use and environmental damage caused by final disposal problems resulting from non-biodegradability, non-recyclability or toxic chemicals contained within finished products.

LABEL OBJECTIVE

This Product Standard identifies the key environmental loads of textile products and specifies limits on the major loads during the product life cycle. Products which comply with this Product Standard will have considerably lower adverse environmental impacts and human health risks compared with products which cannot meet the standard.

The aim of the product environmental criteria developed for "Textile Products Using Recycled Materials" is to:

- Protect the global environment. The relevant influence of the textile industry to the green house effect results of the use of fossil fuels.
- Reduce the adsorbable organical halogen (AOX) emission. Halogenated organic compounds as being lowly biodegradable and toxic can spoil water for many years. Most important sources for AOX in textile production are bleaching processes with chlorine containing substances like sodium chlorite or sodium hypochlorite. A replacement with peroxide should be achieved.

- Help reducing water pollution throughout the textile manufacturing chain. Main textile sources are wet treatments like desizing and scouring in waste water which use oxygen depleting substances.

PRODUCT DEFINITION

The Product Criteria shall therein apply to the following textile products that are made of recycled materials:

- (1) Clothing and bedding products comprising at least 90% textile fibres by weight of the finished product);
- (2) Furniture fabrics, curtains, and textiles for interior decoration (e.g. textile lamp shades, window blinds) comprising at least 90% textile fibres by weight of finished product; and
- (3) Yarns and fabrics intended for use in clothing, bedding or similar applications.

Note: This Product Standard does not apply to flooring materials. The Product Environmental Criteria for the product category “Flooring Materials” are stated in GL-008-002 under the Hong Kong Green Label Scheme (HKGLS).

INTERPRETATIONS

“Recycled materials” refer to any type of materials (particularly fibre including bast, keratin and natural cellulosic fibre) originating from cuttings from textile and clothing manufacture or from post-consumer waste (textiles or otherwise).

“Chemical Oxygen Demand” (COD) refers to the mass concentration of oxygen equivalent to the amount dichromate consumed by dissolved and suspended matter when a water sample is treated with that oxidant under defined conditions.

“Biochemical Oxygen Demand” (BOD) refers to the mass of dissolved oxygen which is required for the biochemical degradation of organic material and for the oxidation of inorganic material in a unit volume of water sample when the sample is incubated under specified conditions for a period of five days.

“Absorbable Organic Halogen” (AOX) refers to the standard measurement of organic halogens used for indication of the environmental influence of bleach plant effluents. Halogen refers to all the five elements fluorine, chlorine, bromine, iodine and astatine. In practice it is a measure of organically bound chlorine.

“VOCs” (volatile organic compounds) means any volatile compound of carbon, with a boiling point of 250 °C or lower under a pressure of 101.3 kPa, excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides, metallic carbonates, ammonium carbonate and exempt compounds.

PRODUCT CRITERIA

The Product Environmental Criteria for the product category of “Textile Products Using Recycled Materials” (GL-005-006) under the HKGLS are set out in the ensuing table:

Product Environmental Criteria	Verification Methods
<p>1. The percentage of virgin fabric(s) in the product shall not be more than 50% of the product’s net weight.</p> <p style="padding-left: 40px;">Source(s) of recycled raw material and the recycled content shall be reported in details.</p> <p>2. At least 95 % (by dry weight) of the component substances of any sizeing preparation applied to yarns shall be sufficiently biodegradable or eliminable in wastewater treatment plants, or else shall be recycled.</p> <p style="padding-left: 40px;">At least 90 % (by dry weight) of the spinning solution additives, spinning additives and preparation agents for primary spinning (including carding oils, spin finishes and lubricants) shall be sufficiently biodegradable or eliminable in waste water treatment plants</p> <p>3. The following hazardous substances shall not be used at any stage of production: Alkylphenoethoxylates (APEOs) Linear alkylbenzene sulfonates (LAS) Bis(hydrogenated tallow alkyl) dimethyl ammonium chloride (DTDMAC) Distearyl dimethyl ammonium chloride (DSDMAC) Di(hardened tallow) dimethyl ammonium chloride (DHTDMAC) Ethylene diamine tetra acetate (EDTA) or ethylene diamine tetra acetic acid Diethylene triamine penta acetate (DTPA) Chrome mordant dyeing</p>	<p>The gross weight of the product shall be specified, along with the components of the products, in weight per cent or in per cent by volume.</p> <p style="text-align: center;">B, C</p> <p style="text-align: center;">A, C</p> <p style="text-align: center;">OECD 301 A, OECD 301 E, ISO 7827, OECD 302 A, ISO 9887, OECD 302 B, or ISO 9888 it shows a percentage degradation of at least 70 % within 28 days, or OECD 301 B, ISO 9439, OECD 301 C, OECD 302 C, OECD 301 D, ISO 10707, OECD 301 F, ISO 9408, ISO 10708 or ISO 14593 it shows a percentage degradation of at least 60 % within 28 days or OECD 303 or ISO 11733 it shows a percentage degradation of at least 80 % within 28 days,</p> <p style="text-align: center;">The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p>

<p>4. Harmful elements shall not be used as an ingredient of the product (whether as a substance or as part of any preparation). The levels of the harmful elements shall not exceed the following:</p> <table border="1" style="width: 100%; border-collapse: collapse; margin-bottom: 10px;"> <thead> <tr> <th style="text-align: left;">Elements</th> <th style="text-align: center;">Children's products</th> <th style="text-align: center;">Other¹</th> </tr> </thead> <tbody> <tr> <td>Antimony</td> <td style="text-align: center;">5.0 ppm</td> <td style="text-align: center;">10 ppm</td> </tr> <tr> <td>Arsenic</td> <td style="text-align: center;">0.2 ppm</td> <td style="text-align: center;">1.0 ppm</td> </tr> <tr> <td>Cadmium</td> <td style="text-align: center;">0.1 ppm</td> <td style="text-align: center;">0.1 ppm</td> </tr> <tr> <td> Total</td> <td style="text-align: center;">1.0 ppm</td> <td style="text-align: center;">2.0 ppm</td> </tr> <tr> <td>Chromium</td> <td style="text-align: center;">1.0 ppm</td> <td style="text-align: center;">2.0 ppm</td> </tr> <tr> <td> Cobalt</td> <td style="text-align: center;">1.0 ppm</td> <td style="text-align: center;">4.0 ppm</td> </tr> <tr> <td> Copper</td> <td style="text-align: center;">25 ppm</td> <td style="text-align: center;">50 ppm</td> </tr> <tr> <td> Lead</td> <td style="text-align: center;">0.2 ppm</td> <td style="text-align: center;">1.0 ppm</td> </tr> <tr> <td>Mercury</td> <td style="text-align: center;">0.02 ppm</td> <td style="text-align: center;">0.02 ppm</td> </tr> <tr> <td>Nickel</td> <td style="text-align: center;">1.0 ppm</td> <td style="text-align: center;">4.0 ppm</td> </tr> </tbody> </table>	Elements	Children's products	Other ¹	Antimony	5.0 ppm	10 ppm	Arsenic	0.2 ppm	1.0 ppm	Cadmium	0.1 ppm	0.1 ppm	Total	1.0 ppm	2.0 ppm	Chromium	1.0 ppm	2.0 ppm	Cobalt	1.0 ppm	4.0 ppm	Copper	25 ppm	50 ppm	Lead	0.2 ppm	1.0 ppm	Mercury	0.02 ppm	0.02 ppm	Nickel	1.0 ppm	4.0 ppm	<p style="text-align: center;">A, C</p> <p style="text-align: center;">(EN ISO 105-E04 / ICP-MS)</p>
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<p>5. The levels of formaldehyde for products shall not exceed the following: Baby products: 20 ppm Other direct skin contact product: 75 ppm No direct skin contact products: 300 ppm</p>	<p style="text-align: center;">A, C</p> <p style="text-align: center;">(EN ISO 14184-1)</p>																																	
<p>6. The product shall not contain azo dyes that may cleave to aromatic amines listed in the EU Directive 67/548/EEC.</p>	<p style="text-align: center;">A, C</p>																																	
<p>7. The following carcinogenic, mutagenic or toxic to reproduction dyes listed in the EU Directive 67/548/EEC shall not be used.</p>	<p style="text-align: center;">A, C</p>																																	
<p>8. The product shall contain no more than 0.1% by dry weight of chemical flame retardant (e.g. polybromodiphenylether [PBB], hexabromocyclododecane, bromated diphenylether [PBDE], etc.)</p>	<p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p>																																	
<p>9. Halogenated shrink-resist substances or preparations shall not be used.</p>	<p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p>																																	
<p>10. Coatings, laminates and membranes shall not be produced by plasticizers or solvents listed in EU Directive 67/548/EEC.</p>	<p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p>																																	
<p>11. Chlorinated bleaching agents shall not be used during the production processes.</p>	<p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p>																																	

<p>12. The use of organic tin compounds (TBT), chlorophenols and other pesticides listed in EU Directive 67/548/EEC during transportation or storage is not allowed. The levels of these substances as impurities shall not exceed 0.05 ppm.²</p> <p>13. The production shall not utilize benzene for printing, dichromate as oxidizing agent for colour fastness improvement, and halogenated organic solvents in open systems.</p> <p>14. The gamma radiation dose of the product shall not exceed 0.5 micro Sievert per hour.</p> <p>15. Production processes shall conform to relevant national or local environmental regulations on preventing air pollution (i.e. emission of acrylonitrile, aromatic diisocyanates, VOC and N₂O) and water contamination (i.e. level of AOX, COD, pH, temperature, Zn and Cu).</p> <p>16. Instruction manual(s) shall accompany a product concerning its production, use, and preferably also disposal, and recycling.</p> <p>17. General packaging requirement (Refer to criteria for packaging materials: GL-Packaging).</p>	<p>A, C</p> <p>Test report(s) shall be submitted by the applicant to show compliance with the requirement. Suggested test methods include: Organo-chlorine pesticides: USEPA 8081 A Chlorinated herbicides: USEPA 8151 A Organophosphorus compounds: 8141 A Semi-volatile organic compounds: 8270 C</p> <p>Equivalent methods are acceptable.</p> <p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p> <p>A certificate issued by the manufacturer of the product concerning safety with regard to exposure to radioactivity material shall be submitted. A certificate of test results carried out by a third party shall also be submitted if available.</p> <p>The applicant shall provide a <i>declaration</i> of conformity of the product with the requirements.</p> <p>Manual(s) shall be submitted for review.</p> <p>B, C, D</p>
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Legend:

- A – Analytical testing shall be performed by laboratories that meet the requirement laid out in the EN45001 standards or any equivalent systems e.g. HOKLAS, IEC/ISO 17025
- B – Inspection of product samples
- C – Review of supporting information as required by the GC
- D – Interviews with relevant personnel and/or site visits to relevant facilities

Hong Kong Green Label Scheme
Product Environmental Criteria for
Textile Products Using Recycled Materials (GL-005-007)



¹ Refer to products other than children's products.

² This requirement applies to cotton and natural cellulosic seed fibres including kapok.