

Hong Kong Green Label Scheme
Product Environmental Criteria for
Detergents for Sanitary Facilities (GL-003-002)



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 detergent products for sanitary facilities 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.

POTENTIAL ENVIRONMENTAL IMPACTS

Sanitary detergents contain various chemical substances such as surfactants, softeners, acidic/alkaline substances, disinfectants, preservatives, thickening agents, dyes, and other possible additives. The product residues and the wastewater discharged from the use of sanitary detergents may pose an adverse impact on aquatic organisms and present a significant burden on the wastewater treatment. The packaging of the products also contributes to solid waste generation.

LABEL OBJECTIVE

The aim of the environmental criteria developed for laundry detergents is to:

- Reduce toxicity of product residues/wastewater arising from the use of sanitary detergents, and to help reduce the environmental loading of sewage treatment facilities and the receiving water bodies; and
- Minimize waste production by reducing the amount of primary packaging.

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PRODUCT DEFINITION

This document and all product environmental criteria therein apply to all liquid and solid multifunctional products designed for sanitary facilities including water closets, kitchens, laundry rooms, bathrooms, and showers. The document applies to products for use both by consumers and by professional cleaners. The products may be either disinfecting or non-disinfecting.

PRODUCT ENVIRONMENTAL CRITERIA

The table below sets out the product environmental criteria for Detergents for Sanitary Facilities (GL-003-002) under the HKGLS.

The environmental criteria developed focus on ingredients in the products (raw materials production process is exempted).

Product Environmental Criteria	Verification Method(s)*
1. The detergent shall be easily biodegradable.	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s)^{1a-1b}; AND ✓ Review of supporting information.
2. The detergent shall not contain the following substances: <ul style="list-style-type: none"> • Non-biodegradable completing agents such as ethylenediamine tetraacetic acid (EDTA); • APEO (alkyl phenol ethoxylate); and • Chlorine bleaching agents. 	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).²
3. The detergent shall contain the following substances in a limited level: <ul style="list-style-type: none"> • NTA (nitrilo-tri-acetate) shall not exceed 10%; • Phosphate shall not exceed 0.5%; • Phosphonates shall not exceed 0.4%; 	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).³
4. Product shall not be formulated with quaternary ammonium salts.	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).⁴ ✓ Review of supporting information.

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Product Environmental Criteria	Verification Method(s)*
5. Colouring matters / dyes / pigments in the product must be approved for use in foodstuffs and/or cosmetics by relevant national or local environmental regulations.	✓ Review of supporting information. <i>A declaration of compliance shall be provided together with a full list of all dyes or coloring agents used.</i>
6. Packaging Requirements: <ul style="list-style-type: none"> • Maximum packaging limit: 18g per 100g of product in use. • General packaging requirements (refer to criteria for packaging materials: GL-Packaging). 	✓ Inspection of product samples; AND ✓ Review of supporting information; AND ✓ Interview with relevant personnel.

*Analytical testing should be accredited and performed by laboratories that meet the requirement laid out in the IEC/ISO 17025 or EN45001 standards or any equivalent systems e.g. HOKLAS, CNAS. Under special situation and with the approval from GC, test can be performed by in-house method by the accredited laboratory or manufacturer.

Notes on Verification Method

- 1a Appropriate *test* results, showing that the surfactants used are aerobically biodegradable shall be provided.
Test method include: 40CFR 796.3240 or any of the six test methods described in Organization for Economic Co-operation and Development (OECD) Guidelines for Testing of Chemicals, 301A-301F; or CNS4984 (Method of Test for Biodegradability of Synthetic Detergent) or Other equivalent testing method
- 1b Ingredients will be considered readily biodegradable if the level of biodegradability measured is at least 60% within 28 days.
- 2 *Test method:*
EDTA: *ASTM D1767 or Titration method in APHA 2340C or other equivalent method*
APEO: *ASTM D2357 or NMR-H or Screening test using GC/MS or other equivalent*
Chlorine bleaching agents: *ASTM D2022 or APHA 20e 4500-CI B or other equivalent*
- 3 *Test method:*
NTA: *ASTM D4954 or APHA 2340C or other equivalent*
Phosphate: *APHA 4500 P B & C or other equivalent*
Phosphonates: *ISO 10695 or other equivalent*
- 4 The applicant shall provide copies of the material safety data sheets for all ingredients (whether substances or preparations) and laboratory test report.

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Test method:

Quaternary ammonium salts: *ISO 7150-1 (Determination of ammonium – Part 1: Manual Spectrometric method) or Screening test using GC/MS or HPLC or other equivalent*

- 5 List of permitted colorants in food is stated in Schedule 1 of Cap 132 H of Colouring Matter in Food Regulations.

- 6 A description of the materials used in packaging and labels and an empty package shall be provided, together with a declaration that the packaging materials do not contain chlorine-based plastics.