# Hong Kong Green Label Scheme
# Product Environmental Criteria for
## All Purpose Cleaner (GL-003-005)

GREEN COUNCIL
環保促進會

## 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 "all purpose cleaner" products will be required to meet in order to be licensed to use the HKGLS label. The requirements include environmental criteria and related product characteristics. The specification also defines the testing and other means to be used to verify conformance with the requirements.

## POTENTIAL ENVIRONMENTAL IMPACTS

All-purpose cleaners are widely used in domestic premises of Hong Kong every day for the routine cleaning of floors, walls, ceilings and other fixed surfaces. These cleaners contain various chemical ingredients such as surfactants (surface active agents) that perform the main cleaning function, also water softeners, bleaches (whiten, disinfect, deodorize and remove stains), preservatives, dyes and any other Volatile Organic Compounds (VOCs).

Cleaning products are released to the environment during normal use through evaporation of volatile components and rinsing down the drain of residual product from cleaned surfaces, sponges, etc. The discharge of the cleaners and/or their prepared solution presents a significant burden on our environment in terms of wastewater loading, air pollution and subsequent treatment, resource consumption and disposal of packaging materials. Phosphorus or nitrogen in the ingredients may contribute to nutrient loading in water bodies, leading to adverse effects on water quality.

Certain ingredients in cleaning products can present hazard concerns to exposed populations, e.g. skin and eye irritation in workers, or toxicity to aquatic species in waters receiving inadequately treated wastes.

## LABEL OBJECTIVE

The aim of the environmental criteria developed for "all purpose cleaners" is to:

- Reduce the toxicity of wastewater arising from the use of all purpose cleaners, and to help reduce the environmental loading of sewage treatment facilities and the receiving water bodies;
- Reduce the release of toxic gaseous emissions arising from the use of "all purpose cleaners"; and
- Minimize waste production by reducing the amount of primary packaging.

## PRODUCT DEFINITION

This document and all product environmental criteria therein apply to all "all purpose cleaners" in powdered, liquid or other forms.

## PRODUCT ENVIRONMENTAL CRITERIA

The product performance and environmental criteria for the product category of "all purpose cleaners" (GL-003-005) under the Hong Kong Green Label Scheme (HKGLS) are set out in this criteria document in the ensuing table.

| Product Environmental Criteria | Verification Method(s)* |
|---|---|
| 1. The detergent shall be easily biodegradable. | ✓ Review of laboratory test report(s)[1a-1c]; AND<br>✓ Review of supporting information. |
| 2. The detergent shall not contain the following substances:<br>• Non–biodegradable completing agents such as ethylenediamine tetraacetic acid (EDTA);<br>• APEO (alkyl phenol ethoxylate); and<br>• Chlorine bleaching agents. | ✓ Review of laboratory test report(s).[2] |
| 3. The detergent shall contain the following substances in a limited level:<br>• NTA (nitrilo-tri-acetate) shall not exceed 10%;<br>• Phosphate shall not exceed 0.5%;<br>• Phosphonates shall not exceed 0.4%; | ✓ Review of laboratory test report(s).[3] |

| Product Environmental Criteria | Verification Method(s)* |
|---|---|
| 4. Product shall not be formulated with quaternary ammonium salts. | ✓ Review of laboratory test report(s).[4]<br>✓ Review of supporting information. |
| 5. The product shall not contain more than 10% (by weight) of volatile organic compounds. | ✓ Review of laboratory test report(s).[5] |
| 6. Colour Pigments: only food and cosmetics shall be used. | ✓ Review of supporting information.<br><br>A declaration of compliance shall be provided together with a full list of all colour pigments used. |
| 7. Packaging Requirements:<br>• Maximum packaging limit: 18g per 100g of product in use.<br>• General packaging requirements:<br>  • Packaging materials shall not contain chlorine-based plastics.<br>  • The plastics shall preferably carry a plastic resin identification code **(optional)**. | ✓ Inspection of product samples; AND<br>✓ Review of supporting information; AND<br>✓ 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.

Council Directive 76/768/EEC of 27 July 1976 on the approximation of the laws of the Member States relating to cosmetic products Annex IV – Part 1 List of colouring agents allowed for use in cosmetic products (See Resources Centre at http://www.greencouncil.org/eng/greenlabel/res.asp). Council Directive 94/36/EEC of 30 June 1994 on colors for use in foodstuffs (refer to Annex 1) (See Resources Centre at http://www.greencouncil.org/eng/greenlabel/res.asp).

**Notes on Verification Methods**

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-Cl 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.

*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 *Test method:*

***Volatile organic compounds:*** *Any in-house method or California Air Resources Board Method 310*

6 A declaration of compliance with this criterion shall be provided together with a list of all dyes or colouring agents used.

7 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.