Hong Kong Green Label Scheme
Product Environmental Criteria for
Disinfectants / Disinfectant-Cleaner (GL-003-007)

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 disinfectant-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

Concerning about the outbreaks of epidemic diseases, the disinfectants and disinfectant-cleaners become popular and are widely used in public areas like housing estates, hospitals and shopping malls in Hong Kong. As the major components of these cleaners are synthetic chemicals, the persistence and toxicity of these chemicals can lead to adverse environmental impacts. To lessen the burden on our environment, the product's toxicity, biodegradability, disinfection performance, human health impact, air pollution, resource consumption and disposal of packaging materials shall be considered.

LABEL OBJECTIVE

The aim of the environmental criteria developed for "disinfectant-cleaner" is to:

- Reduce the toxicity of wastewater arising from the use of industrial cleaners, and to help reduce the environmental loading of sewage treatment facilities and the receiving water bodies;
- Reduce the release of toxic gases arising from the use of industrial 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 disinfectants and disinfectant-cleaners. (***Note: The Green Council reserves the right to determine which sub-category will be assigned to a particular applicant.***)

Product Environmental Criteria	Verification Method(s)*
General Requirements 1. Meet applicable governmental and industrial safety standards	✓ Review of supporting information issued from relevant authority(ies).
2. Meet the requirements of all applicable governmental acts, by laws and regulations.	✓ Review of supporting information issued from relevant authority(ies).
Performance Requirements 3. The product is required to meet the efficacy required as listed in the USEPA DIS/TSS guidance documents (http://www.epa.gov/oppad001/sciencepolicy.htm).	✓ Review of laboratory test report(s). ***Note: For test other than applying in DIS/TSS guidance, Green Council will also take evolving science in consideration, as well as internationally accepted test standards.***
4. The product shall not be considered a skin irritant under any of the following scenarios[1]: • test data shows that the whole-product is not a skin irritant when tested at the most concentrated at-use dilution. A substance is considered an irritant if it causes erythema or edema of the skin graded at 2 or more as defined by OECD 404; • test data shows that each ingredient present at or above a concentration of 5% is not a skin irritant, or • if test data shows that any known skin irritants are non irritating when present at 5% or greater in the product as sold;	✓ Review of laboratory test report(s).

Product Environmental Criteria	Verification Method(s)*
Environmental Requirements 5. The product shall not be formulated or manufactured with following solvents: a. Aromatic solvents b. Halogenated solvents c. Ethylene glycol monomethyl ether/methoxyethanol d. Ethylene glycol monoethyl ether/ ethoxyethanol, e. Ethylene glycol monobutyl ether/ butoxyethanol, and f. Ethylene glycol monopropyl ether /propoxyethanol	✓ Review of supporting information. A declaration of compliance shall be provided.
6. The product shall not be formulated or manufactured with classes of active disinfecting ingredients that are not readily biodegradable, or highly toxic to aquatic or mammalian life or have been linked to occupational asthma. These ingredients are: (a) halogens or halogen salts, (b) benzalkonium chloride, (c) phenolics, (d) peroxyacetic acids, (e) heavy metals, including but not limited to, arsenic, cadmium, chromium, lead, silver and mercury.	✓ Review of supporting information. A declaration of compliance shall be provided. ✓ Review of laboratory test report(s) (applicable for heavy metals only).
7. The product shall not be formulated or manufactured with any chemicals that are included in the International Agency for Research on Cancer (IARC) lists for proven (Group 1), probable (Group 2A), or possible (Group 2B) carcinogens;	✓ Review of supporting information.
8. Colour Pigments: only food and cosmetics dyes shall be used.	✓ Review of supporting information. A declaration of compliance shall be provided together with a full list of all colour pigments used.

Product Environmental Criteria	Verification Method(s)*
9. The product shall not be toxic to aquatic life defined as IC50 > 100 mg/L as measured by whole formulation short-term sensitive toxicity test performed on the bacteria *Photobacterium phosphoreum*.	✓ Review of laboratory test report(s). Aquatic toxicity shall be measured by one of the following test methods: **Biological Test Method:** Toxicity Test Using *Luminescent Bacteria* (*Photobacterium phosphoreum*), Report EPS 1/RM/24, November 1992, Environment Canada, ASTM D5660- 96 or ISO 11348;
10. The product shall have an acute oral toxicity of > 2000 mg/kg with a survival rate of animals of 100%.	✓ Review of laboratory test report(s). **OECD test method 420 Acute Oral Toxicity – Fixed Dose Method** or **EPA Method Health Effects Test Guidelines OPPTS 870.1100 Acute Oral Toxicity**
11. Organic ingredient must be readily biodegradable	✓ A substance can be defined as "ready biodegradable" if more than 60% or 70% biodegradability (depending on test method) is achieved within the 10- or 14-day window in any of the six test methods described in Organization for Economic Co-operation and Development (OECD) Guidelines for Testing of Chemicals, 301A-301F

Product Environmental Criteria	Verification Method(s)*
12. Packaging Requirements: • Maximum packaging limit: 18g per 100g of product in use. • General packaging requirements: o Packaging materials shall not contain chlorine-based plastics. o The plastics shall preferably carry a plastic resin identification code **(optional)**.	✓ 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.

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 colours for use in foodstuffs (refer to Annex 1) (See Resources Centre at http://www.greencouncil.org/eng/greenlabel/res.asp).

Reference:

Environmental Choice[M] Program Certification Criteria Document CCD-166