

Hong Kong Green Label Scheme
Product Environmental Criteria for
Machine Dishwashing Detergents (GL-003-003)



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 Green Council (GC) organizes the Scheme 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 machine dishwashing detergents 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

Dishwashing detergents are consumed in large quantity in Hong Kong every day. Such dishwashing detergent products contain various chemical substances such as surfactants, softeners, alkali, bleaches, preservatives, dyes, and other additives. Detergent components such as surfactants may accumulate and may be toxic or otherwise harmful to the environment.

The greatest environmental impact of dishwashing detergents takes place at the stage of product-use. The product remnants and the wastewater discharged from the use of dishwashing detergents may pose an adverse impact on the aquatic organisms and present a significant burden on wastewater treatment. The packaging of the products also contributes to solid waste generation.

LABEL OBJECTIVE

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

- Reduce the environmental hazards of product residues and wastewater discharged arising from the use of dishwashing 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 and promoting its reusability and/or recyclability.

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PRODUCT DEFINITION

This document and all product environmental criteria therein apply to all machine-wash dishwashing detergents. Rinsing agents are not covered in this document.

PRODUCT ENVIRONMENTAL CRITERIA

The table below sets out the product environmental criteria for dishwashing detergents (GL-003-003) under the HKGLS.

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"> • EDTA (Ethylene diamine tetra-acetic acid); • Chlorine bleaching agents; and • Dyes. 	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).² ✓ Review of supporting information
3. Phosphate in the detergent shall not exceed 0.5% by weight of total phosphorus.	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).³
4. Phosphonates in the detergent shall not exceed 0.2g/wash.	<ul style="list-style-type: none"> ✓ Review of laboratory test report(s).⁴
5. 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). 	<ul style="list-style-type: none"> ✓ Inspection of product samples; AND ✓ Review of supporting information⁵; 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.

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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 The applicant shall provide copies of the material safety data sheets for all ingredients, declaration from authorized person showing compliance to the criteria and laboratory test report
Test method:
EDTA: ASTM D1767 or Titration method in APHA 2340C or other equivalent method
Chlorine bleaching agents: ASTM D2022 or APHA 20e 4500-Cl B or other equivalent
Dye: By declaration and product ingredients list.

3. *Test method:*
Phosphate: APHA 4500 P B & C or other equivalent

4. *Test method:*
Phosphonates: ISO 10695 or other equivalent

- 5 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.