EcoLogo[CM] Program
Certification Criteria Document

CCD-165
Urinal Blocks

Introduction

The EcoLogo[CM] Program is designed to support a continuing effort to improve and/or maintain environmental quality by reducing energy and materials consumption and by minimizing the impacts of pollution generated by the production, use and disposal of goods and services.

Urinal blocks are usually cylindrical blocks, 5-10 cm (2-4 inches) in diameter, between 1-2 cm (0.4-0.8 inches) thick, 50 g (1.8 oz) or more in weight, and are used in public washrooms to deodorize urinals. An estimated 90% of urinal blocks use either para-dichlorobenzene or, less commonly, naphthalene as the main active ingredient. These ingredients compose 95% of the weight of the product.

Both para-dichlorobenze and naphthalene have substantial negative health and environmental impacts. Naphthalene is a possible carcinogen and shows high toxicity to aquatic organisms. Para-dichlorobenze is a possible carcinogen and is expected to bioaccumulate in aquatic organisms. The feedstocks used to manufacture p-dichlorobenzene blocks are benzene and chlorine, both of which are hazardous to users and create air pollutants.

Alternative products composed of salts, soap, fragrance and bacterial cultures to break down urine offer a better environmental choice. This document prohibits the use of p-dichlorobenzene or naphthalene and restricts the types of ingredients in alternative products.

Based on a review of currently available life cycle information, the product category requirements will produce an environmental benefit through a reduction in toxic emissions.

Life cycle review is an ongoing process. As information and technology change, the product category requirements will be reviewed and possibly amended.

Notice

Any reference to a standard means to the latest edition of that standard.

The EcoLogo[CM] Program reserves the right to accept equivalent test data for the test methods specified in this document.

Interpretation

1. In this criteria document:

"Biosafety Level" means a classification of biological safety that may be documented on a material safety data sheet (MSDS) for a microbial culture. The Center for Disease Control designates four biosafety levels for microbial cultures:

- Biosafety Level 1: not known to consistently cause disease in healthy adults,
- Biosafety Level 2: associated with human disease, hazard is percutaneous injury, ingestion, mucous membrane exposure,
- Biosafety Level 3: indigenous or exotic agents with potential for aerosol transmission; disease may have serious or lethal consequences, and
- Biosafety Level 4: dangerous/exotic agents which pose high risk of life-threatening disease, aerosol-transmitted lab infections; or related agents with unknown risk of transmission;

"Code of Practise of the International Fragrance Association" means a set of standards that includes limits and prohibitions on the types of fragrances with known health and/or environmental effects;

"endocrine disruptor" means an exogenous substance or mixture that alters function(s) of the endocrine system and consequently causes adverse health effects in an organism, or its progeny, or (sub)populations. Candidate endocrine disruptors are listed in Appendix 1 of "Towards the Establishment of a Priority List of Substances for Further Evaluation of Their Role in Endocrine Disruption" prepared for the European Union;

"quaternary ammonium compounds" means an organic nitrogen compound in which a central nitrogen atom is joined to four alkyl groups (together a positively charged cation) and one anionic halogen acid radical. Such compounds include, alkyl dimethyl benzyl ammonium chloride (CAS # 8045-22-5, 8001-54-5) and didecyldimethylammonium chloride (CAS # 7173-51-5); and

"readily biodegradable" for a component, is determined using any of the six test methods described in OECD Guidelines for Testing of Chemicals, 301A-301F; for a whole formulation, is determined using one of the methods described in OECD Guidelines for the Testing of Chemicals, provided that all measurements and calculations are based on the carbon content of the mixture and its degradation, i.e. dissolved organic carbon (DOC) removal (301A or 301E), CO2 evolution (301-B) or oxygen consumption in the presence of an inhibitor of nitrogen metabolism (301C, 301D or 301F).

Category Definition

2. This category includes all urinal blocks.

General Requirements

3. To be authorized to carry the EcoLogo[CM], the urinal block must:

(a) meet or exceed all applicable governmental and industrial safety and performance standards; and

(b) be manufactured and transported in such a manner that all steps of the process, including the disposal of waste products arising therefrom, will meet the requirements of all applicable governmental acts, by laws and regulations.

Product Specific Requirements

4. To be authorized to carry the EcoLogo[CM] the urinal block must:

(a) based on results from testing of the product in at least three different "in-the-field" locations demonstrate the following performance characteristics (see Appendix 1 for further details):

(i) controls odours as well or better as a nationally available competitor product, and
(ii) once in use, does not physically disappear on average for at least 21 days;

(b) be formulated with a minimum bacterial count of 1.0×10^7 colony forming units per gram;

(c) if sold with a screen, the screen must be mesh (in order to reduce plastic use) and reusable;

(d) not be formulated or manufactured with p-dichlorobenzene;

(e) not be formulated or manufactured with napthalene;

(f) not be formulated or manufactured with quaternary ammonium compounds;

(g) any surfactants must have aquatic toxicity of LC_{50} or EC_{50} > 1 mg/L as measured by short-term sensitivity testing with a battery of toxicity tests using three different species of divergent taxonomic and ecological ranks. These species should be physiologically and ecologically similar to organisms that reside in North American ecosystems. Listed below are acceptable methods.

- an acute toxicity test on an aquatic vertebrate species using one of the following:
  - Report EPA-821-R-02-012, "Methods for measuring the acute toxicity of effluents and receiving waters to freshwater and marine organisms", 2002, U.S. Environment Protection Agency; or
  - ISO 7346/1:1996 – "Water quality - Determination of the acute lethal toxicity of substances to a freshwater fish [*Brachydanio rerio* Hamilton-Buchanan (*Teleostei, Cyprinidae*) - Part 1: Static method", International Standardization Organization; or
  - ISO 7346/2:1996 – "Water quality - Determination of the acute lethal toxicity of substances to a freshwater fish [*Brachydanio rerio* Hamilton-Buchanan

(*Teleostei, Cyprinidae*)] - Part 2: Semi-static method", International Standardization Organization; or
  - ISO 7346/3:1996 – "Water quality - Determination of the acute lethal toxicity of substances to a freshwater fish [*Brachydanio rerio* Hamilton-Buchanan (*Teleostei, Cyprinidae*)] - Part 3: Flow-through method", International Standardization Organization; or
  - Report EPS 1/RM/9, "Biological Test Method: Acute Lethality Test Using Rainbow Trout", July 1990, Environment Canada.

- an acute toxicity test on an aquatic invertebrates species using one of the following:
  - Report EPA-821-R-02-012, "Methods for Measuring the Acute Toxicity of Effluents and Receiving Waters to Freshwater and Marine Organisms", October 2002, U.S. Environment Protection Agency; or
  - Report EPS-1-RM-11, "Biological Test Method: Acute Lethality Test Using *Daphnia spp.*", July 1990, Environment Canada; or
  - Report OECD/OCDE-202, "Daphnia sp. Acute Immobilisation Test", April 2004, Organization for Economic Cooperation and Development; or
  - ISO 6341:1996, "Water quality - Determination of the Inhibition of the Mobility of *Daphnia magna Straus* (*Cladocera, Crustacea*)", International Standardization Organization.

- a phytotoxicity test on a freshwater microalgae using one of the following:
  - Report EPA-821-R02-013 (section 14), "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms", October 2002, U.S. Environment Protection Agency or
  - Report EPS-1-RM-25, "Biological Test Method: Growth Inhibition Test Using a Freshwater Algae", March 2007, Environment Canada; or
  - Freshwater Alga and Cyanobacteria, Growth and Inhibition Test, Report OECD/OCDE-201, March 2006, Organization for Economic Cooperation and Development; or
  - ISO 8692: 2004, "Water quality – Freshwater algal growth inhibition test with unicellular green algae", International Standardization Organization;

(h) if formulated or manufactured with a fragrance, demonstrate that the fragrance has been manufactured and handled according to the code of practise of the International Fragrance Association;

(i) not be formulated or manufactured with ingredients listed as potential endocrine disruptors;

(j) 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;

(k) use organic ingredients that are readily biodegradable;

(l) any bacteria or enzymes must be from bacterial strains classified as Biosafety Level ; and

(m) be in compliance with federal legislation regarding toxicity and biodegradation, including, for Canada, the New Substances Notification Regulations as per the Canadian Environmental Protection Act, 1999.

Verification

5. To verify a claim that a product meets the criteria listed in the guideline, the EcoLogo[CM] Program will require access, as is its normal practice, to relevant quality control and production records and the right of access to production facilities on an announced basis.

6. Compliance with section 3(b) shall be attested to by a signed statement of the Chief Executive Officer or the equivalent officer of the manufacturer. The EcoLogo[CM] Program shall be advised in writing immediately by the licensee of any non-compliance which may occur during the term of the license. On the occurrence of any non-compliance, the license may be suspended or terminated as stipulated in the license agreement.

Conditions for EcoLogo[CM] Use

7. The EcoLogo[CM] may appear on wholesale or retail packaging, or on the product itself, provided that the product meets the requirements in this document.

8. It is recommended that a criteria statement appear with the EcoLogo[CM] whenever the EcoLogo[CM] is used in association with the Urinal Puck. The intent of this statement is to provide clarification as to why the product was certified and to indicate constraints to which the certification is limited. This is to ensure no ambiguity over, or misrepresentation of, the reason(s) for certification.

   The suggested criteria statement wording for this product type is "*Urinal Block*". The licensee may propose other wording for the criteria statement, but any such proposed wording must be approved by the EcoLogo[CM] Program.

9. All licensees and authorized users must comply with the Program's *Guide to Proper Use of the EcoLogo[CM]* regarding the format and usage of the EcoLogo[CM].

10. Any accompanying advertising must conform with the relevant requirements stipulated in this document, the license agreement and the Program's *Guide to Proper Use of the EcoLogo[CM]*.

For additional copies of this criteria document or for more information about the EcoLogo[CM] Program, please contact:
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Appendix 1 - Guidance on Efficacy Testing

In the absence of a recognised performance standard for urinal blocks, the EcoLogo[CM] Program has developed a simple set of criteria to check that certified products performs as expected. Criterion 4(a) states:

"based on results from testing of the product in three different "in-the-field" locations demonstrate the following performance characteristics;
(i) controls odours as well or better as a nationally available competitor product; and
(ii) once in use a 50g block does not physically disappear for at least 21 days;"

The purpose of the test is to prove that the candidate product performs as well as conventional urinal blocks. Testing must take place in three typical "in the field" locations. Locations must be places where urinals are used frequently and daily (e.g., restaurant, bar, airport). The three locations must be physically different, and not simply three separate urinals in one location. After an agreement is reached with the proprietor or building manager to take part in the test, blocks should be place in the urinal and photos taken before and after the 21 day period.

The following information is required, preferably in the format below:

1 General Information	
1.1 Testing location / address	
1.2 Evaluator name	
1.3 Evaluator relationship to manufacturer	
2 Test Protocol	
2.1 Urinal use: estimate visits per day and visits per week	
2.2 Name of comparative product	
2.3 Availability of comparative product	
3 Test Results	
3.1 Puck size as percentage of original after 21 days. Include before and after photos	
3.2 Are odours controlled at least as well as comparative product (yes/no) plus any additional comments	
3.3 How odour control was evaluated (e.g., user comments, evaluators opinion, concentration of malodourous chemicals)	