EcoLogo[CM] Program
Certification Criteria Document

CCD-105
Laundry Detergents and Fabric Softeners

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.

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

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:

"APEO" means alkylphenol ethoxylate;

"builder" means any substance intended to maintain alkalinity, and/or bind dissolved metal ions (soften the water), and/or keep the soil in suspension, increasing the effectiveness of the detergent. It includes substances such as phosphates, NTA, EDTA, zeolites, sodium citrate and sodium silicate;

"EDTA" means ethylene diaminetetra-acetic acid (also known as ethylene dinitrilotetraacetic acid) or any of its salts;

"expected release concentration" means the approximate concentration at which the detergent would be released into the environment, calculated by dividing the recommended concentration by a dilution factor of 200;

"halogenated organic solvents" means any organic solvent containing halogens including fluorine, chlorine, bromine and iodine;

"IARC" means International Agency for Research on Cancer;

"No Observable Effects" means the highest concentration of a substance to which organisms are exposed that does not cause any observed and statistically significant effects on the organism;

"NTA" means nitrilotriacetic acid or any of its salts;

"OECD" means Organization for Economic Co-operation and Development;

"readily biodegradable" 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);

"recommended concentration" is determined by dividing the weight of the manufacturer's suggested measure of detergent per load by 67 liters, which is the volume of water typical of a standard washing machine; and

"volatile organic compound" or "VOC" means any organic compound which participates in atmospheric photochemical reactions. It excludes those organic compounds that the EcoLogo[CM] Program designates as having negligible photochemical reactivity (see Appendix 1).

Category Definition

2. This category includes all laundry detergents and fabric softeners.

General Requirements

3. To be authorized to carry the EcoLogo[CM], the laundry detergent or fabric softener 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 laundry detergent or fabric softener must:

(a) not require being labelled as poisonous under the Consumer Chemicals and Containers Regulations of the Hazardous Products Act;

(b) not be formulated or manufactured with phosphates;

(c) not be formulated or manufactured with EDTA;

(d) not be formulated or manufactured with APEOs;

(e) not contain halogenated organic solvents or butoxy-ethanol;

(f) not contain any optical brighteners;

(g) not contain any dyes;

(h) not contain volatile organic compounds in excess of 10% by weight as measured by one of the following methods:

- EPA Method 24-24A, 40 C.F.R., Part 60, Appendix A (1991), or
- Method 18,48 Federal Register 48, no. 202, October 18, 1983, or
- Method 1400 NIOSH Manual of Analytical Methods, Volume 1, February 1984, or
- Environmental Protection Agency Method 8240 GC/MS Method for Volatile Organics, September 1986, or
- demonstrated through calculation from records of the amounts of constituents used to make the product where volatile means vapour pressure >0.01 KPa at 20°C.

For products for which the label specifies dilution with water prior to use, the VOC limit shall apply only after the minimum specified dilution has taken place. The minimum specified dilution shall not include recommendations for the incidental use of a concentrated product to deal with limited special applications, such as hard to remove soils and stains;

(i) not be formulated or manufactured with any chemicals that are included in the IARC lists for proven (Group 1), or probable (Group 2A) carcinogens;

(j) be readily biodegradable as determined by whole formulation testing;

(k) demonstrate No Observable Effects at the expected release concentration using 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
  - ISO 15088:2007, "Water quality - Determination of the acute toxicity of waste water to zebrafish eggs (*Danio rerio*)", International Organization for Standardization; or
  - Report EPS 1/RM/9, "Biological Test Method: Acute Lethality Test Using Rainbow Trout", July 1990, Environment Canada.

- a chronic toxicity testing on an aquatic vertebrate species using one of the following:
  - EPA-821-R02-012, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Estuarine and Marine Organisms" (*Menidia beryllina*), US Environmental Protection Agency, 2002; or
  - EPA-600-R95-136, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms", US Environmental Protection Agency, 1995; or
  - Report EPS 1/RM/22, "Biological Test Method: Test of Larval Growth and Survival Using Fathead Minnows", Environment Canada, 1992.

- a chronic toxicity testing on an aquatic invertebrates species using one of the following:
  - EPA-821-R02-013, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to Freshwater Organisms" (*Ceriodaphnia dubia*), US Environmental Protection Agency, 2002; or
  - EPA-600-R95-136, "Short-Term Methods for Estimating the Chronic Toxicity of Effluents and Receiving Waters to West Coast Marine and Estuarine Organisms", US Environmental Protection Agency, 1995; or

- Report OECD/OCDE-211, "*Daphnia magna* Reproduction Test", Organization for Economic Cooperation and Development, September 1998; or
- Report EPS 1/RM/21, "Biological Test Method: Test of Reproduction and Survival Using the *Cladoceran Ceriodaphnia dubia*", Environment Canada, 1992; or
- Report EPS 1/RM/27, "Biological Test Method: Fertilization Assay Using Echinoids (Sea Urchins and Sand Dollars)", Environment Canada, 1992.

(l) be formulated or manufactured with total NTA of less than 13.5 grams per dose; and

(m) be accompanied by detailed instructions for proper use to maximize product performance and minimize waste.

Verification

5. To verify a claim that a product meets the criteria listed in the document, 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 synthetic industrial lubricant. 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 "*Laundry Detergent*" or "*Fabric Softener*". 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:
TerraChoice Environmental Marketing Inc.
Toll free: 1-800-478-0399, Telephone: (613) 247-1900, Email: ecoinfo@terrachoice.com

Appendix 1: Volatile Organic Compounds with Negligible Photochemical Reactivity

The list of volatile organic compounds (VOCs) designated by the EcoLogo[CM] Program as having negligible photochemical reactivity has been taken from the following two documents:

1. State of California Air Resources Board, Regulation for Reducing Volatile Organic Compound Emissions from Consumer Products, Appendix.
2. U.S. EPA VOC Definition, Federal Register, Volume 57, No. 22, 3 February 1992, Rules and Regulations, pg. 3945, sec.51.100.

This EcoLogo[CM] designated list includes the following compounds:

(a) acetone
(b) ammonium carbonate
(c) carbon monoxide
(d) carbonic acid
(e) ethane
(f) metallic carbides or carbonates
(g) methane
(h) methylene chloride (dichloromethane)
(i) cyclic, branched, or linear completely methylated siloxanes
(j) parachlorobenzotrifluoride (PCBTF)
(k) perchloroethylene (tetrachloroethylene)
(l) 1,1,1-trichloroethane
(m) trichlorofluoromethane (CFC-11)
(n) dichlorodifluoromethane (CFC-12)
(o) trichlorotrifluoroethane (CFC-113)
(p) dichlorotetrafluoroethane (CFC-114)
(q) chloropentafluoroethane (CFC-115)
(r) chlorodifluoromethane (HCFC-22)
(s) dichlorotrifluoroethane (HCFC-123)
(t) dichlorofluoroethane (HCFC-141b)
(u) chlorodifluoroethane (HCFC-142b)
(v) 2-chloro-1,1,1,2-tertrafluoroethane (HCFC-124)
(w) trifluoromethane (HFC-23)
(x) 1,1,1,2,3,4.4,5,5,5-decafluoropentane (HFC-43-10mee)
(y) pentafluoroethane (HFC-125)
(z) 1,1,2,2-tetrafluoroethane (HFC-134)
(aa) tetrafluoroethane (HFC-134a)
(bb) 1,1,1-trifluoroethane (HFC-143a)
(cc) 1,1-difluoroethane HFC-152a)
(dd) 3,3-dichloro-1,1,1,2,2-pentafluoropropane (HCFC-225ca)
(ee) 1,3-dichloro-1,1,2,2,3-pentafluoropropane (HCFC-225cb)
(ff) perfluorocarbons (classes of):
  (A) cyclic, branched, or linear, completely fluorinated alkanes
  (B) cyclic, branched, or linear, completely fluorinated ethers with no unsaturations
  (C) cyclic, branched, or linear, completely fluorinated tertiary amines with no unsaturations
  (D) sulfur-containing perfluorocarbons with no unsaturations with the sulfur bonds only to carbon and fluorine

EcoLogo™ Program
Interpretation Document CCD-105

Equivalent Testing Methodologies for Biodegradability

Interpretation:

The EcoLogo™ Standard for Laundry Detergent and Fabric Softener, CCD-105, has a biodegradation requirement that must be met. The following test method is currently indicated in the standard as a permissible biodegradability test:

- Be readily biodegradable as determined by whole formulation testing.

Upon further examination, the EcoLogo Program will now also accept the following Laundry Detergent and Fabric Softener biodegradation test for CCD-105 Certification:

- Individual ingredient testing.

Basis for Interpretation:

The EcoLogo Program reserves the right to accept alternative test methods to those specified in a particular standard. Equivalency is determined through a review and comparison of:

- The methodology and procedures themselves
- The reliability, repeatability and reproducibility of the methods
- The materials, equipment and test conditions required
- The requirements for reporting of data and test results
- The consideration of peer and expert review of the methodologies

Affected EcoLogo Standards:

This interpretation applies only to CCD-105, Laundry Detergents and Fabric Softeners.

Additional Notes:

For further clarification as to this interpretation document, please contact the EcoLogo Program at 1-800-478-0399