

# Environmental Choice<sup>M</sup> Program

## CERTIFICATION CRITERIA DOCUMENT

### CCD-048



**Product: Surface Coatings: Recycled Water-borne**

#### Preamble

Pursuant to paragraph 54 (1)(b) of the *Canadian Environmental Protection Act, 1999*, the Minister of the Environment is pleased to publish the following national guideline **on recycled water-borne surface coatings** under the auspices of the Environmental Choice<sup>M</sup> Program.

Pursuant to paragraph 8(1)(b) of the *Canadian Environmental Protection Act*, the Minister of the Environment is pleased to publish the following national guideline on **recycled water-borne surface coatings** under the auspices of the Environmental Choice<sup>M</sup> Program.

The Environmental Choice 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 available to Canadians.

Water-borne surface coatings may contain reduced levels of volatile organic compounds relative to other types of liquid coating products. Reducing VOC emissions will improve air quality thus helping to protect the environment and reduce possible adverse health effects.

The production of the materials used to formulate surface coatings can also have an adverse environmental impact. The resins used in water-borne surface coatings are derived from petrochemical feedstocks and the pigments must be mined and processed. Recovery and recycle of water-borne surface coatings will reduce environmental stress from these activities by conserving non-renewable resources, reducing pollution associated with the production of new products, and diverting a reusable post consumer material from landfill or incineration.

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

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

The Minister of the Environment anticipates that manufacturers or importers of **recycled water-borne surface coatings** which conform to this guideline will apply to the Environmental Choice Program for verification and subsequent authority to label the qualifying products with the Environmental Choice EcoLogo<sup>M</sup>.

#### Notice

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

The Environmental Choice Program reserves the right to accept equivalent test data for the test methods specified in this guideline.

## **Interpretation**

1. In the following guideline:

**"aromatic solvent"** means any organic solvent that has a benzene ring in its molecular structure;

**"consumer"** means a household, commercial establishment or institutional facility;

**"flash point"** means the minimum temperature of a liquid at which the vapours given off are sufficient to form a flammable mixture with air which will ignite when exposed to an open flame in accordance with the American Society for Testing and Materials (ASTM) test method D93-80 (Pensky-Martens Closed Tester) or ASTM test method D3278-82 (Seta);

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

**"industrial scrap"** means by-products of an industrial process that can be, and regularly are, used in either the same process, or in a different process. Such materials are excluded from the standard definition of recycled material;

**"paint"** means a pigmented liquid that is designed for application in single or multiple layers and forms an opaque, continuous film after application. The purpose is for decorating and/or protecting surfaces, as well as concealing surface irregularities. It does not include driveway sealers, wood preservatives or anti-fouling paints;

**"post-consumer material"** means a product which has served its end-use at the consumer level, has been discarded by the consumer, and would, unless diverted, enter the waste stream;

**"pre-consumer material"** means materials generated by an industrial process that would, unless diverted, enter the waste stream. This includes, but is not limited to, damaged or defective materials, overstock or obsolete inventories from manufacturers, distributors, and wholesalers. It does not include industrial scrap;

**"recycled material"** means post-consumer material and pre-consumer material. It does not include industrial scrap, except that proportion of the scrap which originated as post-consumer material and pre-consumer material;

**"stain"** means a transparent, semitransparent or opaque mixture of colouring matter (dyes and/or pigments) in a vehicle, designed to colour and/or protect a surface by penetration, leaving practically no surface film;

**"surface coating"** means a paint, stain or varnish used to coat architectural or other constructed surfaces. This product category does not include driveway sealers, wood preservatives, or anti-fouling paints;

**"varnish"** means a liquid composition that is converted to a transparent or translucent, continuous film after application as a thin layer. The purpose is primarily to protect and decorate surfaces;

**"volatile organic compound"** or "VOC" means any organic compound which participates in atmospheric photochemical reactions. It excludes those organic compounds which the ECP designates as having negligible photochemical reactivity; and

**"water-borne"** means coatings that use water as the primary carrier component.

## Category Definition

2. This category includes all **recycled water-borne surface coatings**.

## General Requirements

3. To be authorized to carry the EcoLogo the **recycled water-borne surface coatings** must:
  - (a) meet or exceed all applicable governmental and/or 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 including, for facilities located in Canada, the *Fisheries Act* and the *Canadian Environmental Protection Act (CEPA)*.

## Product Specific Requirements

4. To be authorized to carry the EcoLogo the **recycled water-borne surface coatings** must:
  - (a) contain greater than 50% post-consumer material by volume;
  - (b) if interior paint, demonstrate that the product meets Masters Painters Institute Detailed Performance Standard #53 Interior Latex, Flat MPI Gloss Level 1
  - (c) if exterior paint, demonstrate that the product meets Masters Painters Institute Detailed Performance Standard #10 Exterior Latex, Flat MPI Gloss Level 1
  - (d) not be formulated or manufactured with aromatic compounds (this includes, but is not limited to benzene, toluene / methylbenzene, ethylbenzene, naphthalene)
  - (e) not be formulated or manufactured with aromatic compounds (this includes, but is not limited to halogenated compounds (this includes but is not limited to methylene chloride, 1,1,1, trichloroethane, 1,2 dichlorobenzene,))
  - (f) not be formulated or manufactured with ethylene glycol monobutyl ether / butoxyethanol (CAS 111-76-2)
  - (g) not be formulated or manufactured with ethylene glycol monomethyl ether / 2-Methoxyethanol (CAS 109-86-4)
  - (h) not be formulated or manufactured with methyl ethyl ketone
  - (i) not be formulated or manufactured with methyl isobutyl ketone

- (j) not be formulated or manufactured with isophorone (CAS 78-59-1)
- (k) not be formulated or manufactured with phthalates (including di (2-ethylhexyl) phthalate (CAS 117-81-7), Butyl benzyl phthalate (CAS 85-68-7), di-n-butyl phthalate (CAS 84-74-2), di-n-octyl phthalate, diethyl phthalate (CAS 117-84-0), dimethyl phthalate (CAS 131-11-3)) not be formulated or manufactured with formaldehyde;
- (l) not be formulated or manufactured with antimony, cadmium, hexavalent chromium, lead, mercury and their compounds.

5. The **recycled water-borne surface coating** must:

- (a) not contain lead in excess of 600.0 ppm weight/weight total solids;
- (b) not contain mercury in excess of 50.0 ppm weight/weight total product;
- (c) not contain cadmium in excess of 1.0 ppm weight/weight total product;
- (d) not contain hexavalent chromium in excess of 3.0 ppm weight/weight total product;
- (e) not contain organochlorines or polychlorinated biphenyls (PCBs) in excess of 1.0 ppm weight/weight total product;

**Note:** For verification purposes, the following must be performed on each batch of consolidated post-consumer material before the surface coatings is reformulated and canned. These tests must be performed at a laboratory or facility which has been accredited by the Standards Council of Canada.

(i) Lead, cadmium and chromium are to be determined using ICP-AES (Inductively Coupled Plasma - Atomic Emission Spectroscopy) technique no. 6010 as defined in *EPA Test Methods for Evaluating Solid Wastes, SW-846*.

(ii) Mercury is to be determined by Cold Vapour Atomic Absorption Spectroscopy using Technique no. 7471 as defined in *EPA Test Methods for Evaluating Solid Wastes, SW-846*.

(iii) Organochlorines and PCBs are to be determined by Gas Chromatography using Technique no. 8081 as defined in *EPA Test Methods for Evaluating Solid Wastes, SW-846*.

- (f) have a flash point of 61.0 °C or greater;
- (g) not contain VOCs in excess of 150 g/L as determined by ASTM test method D3960 *Standard Practice for Determining Volatile Organic Compound (VOC) Content of Paints and Related Coatings*;
- (j) be accompanied by information describing proper disposal methods.

6. The calculation of VOCs in section 4 shall:

- (a) exclude water;

- (b) exclude tinting colorant added at the point of sale, where applicable; and
- (c) The calculation of VOCs in section 5 shall be performed using values for the volatile and non-volatile portion of a coating obtained during specified bake conditions found in ASTM 2369 *Test Method for Volatile Content of Coatings* or ASTM 5403 *Standard Test Methods for Volatile Content of Radiation Curable Materials*

## Verification

- 7. To verify a claim that a product meets the criteria listed in the guideline, the Environmental Choice 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.
- 8. 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 Environmental Choice Program shall be advised in writing immediately by the licensee of any noncompliance which may occur during the term of the license. On the occurrence of any noncompliance, the license may be suspended or terminated as stipulated in the license agreement. In the event of a dispute related to the suspension or termination of the license, the license agreement provides for arbitration.

## Conditions for EcoLogo Use

- 9. The EcoLogo may appear on wholesale or retail packaging, or on the product itself, provided that the product meets the requirements in this guideline.
- 10. It is recommended that a criteria statement appear with the EcoLogo whenever the EcoLogo is used in association with the **recycled water-borne surface coating(s)**. 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.

ECP suggested criteria statement wording for this product type is "*Recycled Water-borne Surface Coating*". The licensee may propose other wording for the criteria statement, but any such proposed wording must be approved by the Environmental Choice Program.

- 11. All licensees and authorized users must comply with the Environmental Choice Program's *Guide to Proper Use of the EcoLogo<sup>M</sup>* regarding the format and usage of the EcoLogo.
- 12. Any accompanying advertising must conform with the relevant requirements stipulated in this guideline, the license agreement and the Environmental Choice Program's *Guide to Proper Use of the EcoLogo<sup>M</sup>*.

***For additional copies of this guideline or for more information about the Environmental Choice Program, please contact: TerraChoice Environmental Marketing Inc.,  
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