



GS-11  
Draft of Final Revised Green Seal™  
Environmental Standard for  
Paints and Coatings

December 6, 2007

THE MARK OF ENVIRONMENTAL RESPONSIBILITY

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## **GREEN SEAL**

Green Seal is a non-profit organization devoted to environmental standard setting, product certification, and public education. Green Seal's mission is to work towards environmental sustainability by identifying and promoting environmentally responsible products, purchasing, and production. Through its standard setting, certification and education programs, Green Seal:

- identifies products that are designed and manufactured in an environmentally responsible manner;
- offers scientific analyses to help consumers make educated purchasing decisions regarding environmental impacts;
- ensures consumers that any product bearing the Green Seal Certification Mark has earned the right to use it; and
- encourages manufacturers to develop new products that are significantly less damaging to the environment than their predecessors.

The intent of Green Seal's environmental requirements is to reduce, to the extent technologically and economically feasible, the environmental impacts associated with the manufacture, use and disposal of products. Set on a category-by-category basis, Environmental Standards focus on significant opportunities to reduce a product's environmental impact.

Green Seal offers certification to all products covered by its Standards. Manufacturers may submit their products for evaluation by Green Seal. Those which comply with Green Seal's requirements may be authorized to use the Green Seal Certification Mark on products and in product advertising. Manufacturers authorized to use the Green Seal Certification Mark on their product are subject to an ongoing program of testing, inspection, and enforcement.

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# DRAFT OF GREEN SEAL™ FINAL REVISED ENVIRONMENTAL STANDARD FOR PAINTS AND COATINGS (GS-11)

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## DRAFT OF GREEN SEAL™ FINAL REVISED ENVIRONMENTAL STANDARD FOR PAINTS AND COATINGS (GS-11)

### 1.0 SCOPE

This standard establishes environmental requirements for paints and coatings. The standard includes wall, floor, anti-corrosive, and reflective coatings and primers and undercoats. The standard does not include stains<sup>1</sup>, clear finishes, recycled (consolidated or reprocessed) latex paint, specialty (industrial, marine or automotive) coatings, or paint sold in aerosol cans.

### 2.0 DEFINITIONS

**2.1. Anti-Corrosive Coating:** A coating formulated and recommended for use in preventing the corrosion of metal substrates.

**2.2. Carcinogen:** A chemical listed as a known, probable, reasonably anticipated, or possible human carcinogen by the International Agency for Research on Cancer (IARC) (Groups 1, 2A, and 2B), the National Toxicology Program (NTP) (Groups 1 and 2), the U.S. Environmental Protection Agency (EPA) Integrated Risk Information System (IRIS) (weight-of-evidence classifications A, B1, B2, and C, carcinogenic, likely to be carcinogenic, and suggestive evidence of carcinogenicity or carcinogen potential), or the Occupational Safety and Health Administration (OSHA).

**2.3. Coating:** Liquid, liquefiable, or mastic composition that is converted to a solid adherent film after application to a substrate as a thin layer and is used for decorating, protecting, identifying or to serve some functional purpose such as the filling or concealing of surface irregularities or the modification of light and heat radiation characteristics and is intended for on-site application to interior or exterior surfaces of residential, commercial, institutional or industrial buildings. For the purposes of this standard, the definition of paint or coating does not include stains, clear finishes, recycled latex paint, specialty (industrial, marine or automotive) coatings, and paint sold in aerosol cans.

**2.4. Colorant:** Concentrated color (dyes or pigments) that can be added to finished paints or coatings to make specific colors. Unless specified otherwise, it is the maximum amount of colorant recommended for use by the manufacturer.

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<sup>1</sup> **Stain** is defined under *ASTM D16-03, Standard Terminology for Paint, Related Coatings, Materials, and Applications* as “a penetrating composition that changes the color of a surface, usually transparent and leaving practically no surface film”.

- 2.5. Flat:** Paint or coating whose specular gloss level at 60° registers less than 5 as measured by ASTM D523-89(1999), *Standard Test Method for Specular Gloss*.
- 2.6. Hazardous Air Pollutant (HAP):** Any compound listed by the U.S. EPA in the Clean Air Act Section 112(b) (1) as a hazardous air pollutant.
- 2.7. Ingredient:** Any constituent of a product that is intentionally added or known to be a contaminant that comprises at least 0.01% by weight of the product.
- 2.8. Intentional Introduction:** The act of deliberately utilizing a material in the formation of a package or packaging component where its continued presence is desired in the final package or packaging component to provide a specific characteristic, appearance, or quality.
- 2.9. Mutagen:** A chemical that meets the criteria for category 1, chemicals known to induce heritable mutations or to be regarded as if they induce heritable mutations in the germ cells of humans, under the Harmonized System for the Classification Of Chemicals Which Cause Mutations in Germ Cells (United Nations Economic Commission for Europe, *Globally Harmonized System of Classification and Labeling of Chemicals*).
- 2.10. Non-Flat:** Paint or coating whose specular gloss level at 60° registers 5 or greater as measured by ASTM D523-89(1999), *Standard Test Method for Specular Gloss*.
- 2.11. Ozone-Depleting Compounds:** A compound with an ozone-depletion potential greater than 0.01 (CFC 11=1) according to the U.S. EPA list of Class I and Class II Ozone-Depleting Substances.
- 2.12. Paint:** A pigmented coating. See definition for **Coating**.
- 2.13. Post-Consumer Material:** Material that would otherwise be destined for solid waste disposal, having completed its intended end-use and product life cycle. Post-consumer material does not include materials and by-products generated from, and commonly reused within, an original manufacturing and fabrication process.
- 2.14. Primary Package.** Package that is the material physically containing and coming into contact with the product, not including the cap or lid.
- 2.15. Primer or Undercoat:** Coating that is formulated and recommended for one or more of the following purposes: to provide a firm bond between the substrate and a subsequent coating; to prevent a subsequent coating from being absorbed into the substrate; to prevent harm to a subsequent coating from

materials in the substrate or to provide a smooth surface for application of a subsequent coating.

**2.16. Recovered Material:** Material that has been recovered from or otherwise diverted from the waste generated after a material manufacturing process. Recovered material may include post-consumer material, cuttings, trimmings, obsolete inventories, and rejected unused stock, but does not include material capable of being re-used within the process that generated it.

**2.17. Recyclable:** The package can be collected in a substantial majority of communities, separated or recovered from the solid waste stream and used again, or reused in the manufacture or assembly of another package or product through an established recycling program.

**2.18. Reflective Coating:** A coating designed and intended for the modification of light and heat radiation characteristics.

**2.19. Reproductive Toxin:** A chemical listed as a reproductive toxin (including developmental, female, and male toxins) by the State of California under the Safe Drinking Water and Toxic Enforcement Act of 1986 (California Code of Regulations, Title 22, Division 2, Subdivision 1, Chapter 3, Sections 1200, et. Seq.).

**2.20. Topcoat:** The outermost layer of a paint or coating system.

**2.21. Volatile Aromatic Compound:** Any hydrocarbon compound containing one or more 6-carbon benzene rings in the molecular structure with an initial boiling point lower than or equal to 250°C measured at standard conditions of temperature and pressure.

**2.22. Volatile Organic Compound (VOC):** Any organic compound which participates in atmospheric photochemical reactions as defined by the U.S. Environmental Protection Agency in 40 CFR §51.100 (s), (s) (1) and has an initial boiling point lower than or equal to 250°C measured at standard conditions of temperature and pressure.

### 3.0 PRODUCT-SPECIFIC PERFORMANCE REQUIREMENTS

**3.1. Reflective Coatings.** Reflective coatings shall meet the following requirements:

**3.1.1. Product Specification.** The product shall meet the requirements as tested by ASTM D6083-05e1 *Standard Specification for Liquid Applied Acrylic Coating Used in Roofing*.

**3.1.2. Solar Reflectance.** Solar Reflectance shall meet the requirements as listed below as determined by ASTM C1549-04 *Standard Test Method for Determination of Solar Reflectance Near Ambient Temperature Using a Portable Solar Reflectometer* or ASTM E1918-06 *Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field*.

<b>Characteristic</b>	<b>Performance Specification<sup>2</sup></b>	
	Low-Slope Roofs	Steep-Slope Roofs
Initial Solar Reflectance	Greater than or equal to 0.65	Greater than or equal to 0.25
Maintenance of Solar Reflectance	Greater than or equal to 0.50 (three years after installation under normal conditions)	Greater than or equal to 0.15 (three years after installation under normal conditions)

**3.1.3. Thermal Emittance.** The product shall have a thermal emittance of 80% or more as determined by ASTM C1371-04a *Standard Test Method for Determination of Emittance of Materials Near Room Temperature Using Portable Emitters*.

**3.2. Paints and Coatings.** All paints and coatings, except reflective coatings, shall meet the following performance requirements, unless specified otherwise.

**3.2.1. Adhesion.** The product shall demonstrate a minimum of 50% or better rating for wet and dry adhesion over the intended substrate as determined by ASTM D3359-2 *Standard Test Methods for Measuring Adhesion by Tape Test*.

**3.2.2. Applicability (Flow and Leveling).** The product shall demonstrate applicability by either a minimum 6 rating for foaming, leveling, and spatter resistance as determined by ASTM D7073-05 *Standard Guide for Application and Evaluation of Brush and Roller Applied Paint Films* or a 12-14 minimum drawdown as tested by ASTM D4400-99(2007) *Standard Test Method for Sag Resistance of Paints Using a Multinotch Applicator*. Floor coatings shall demonstrate a minimum 7 rating as determined by ASTM D4062-99(2003) *Standard Test Method for Leveling of Paints by Draw-Down Method*.

<sup>2</sup> Low-slope roofs are surfaces with a slope of 2:12 inches or less and Steep-slope roofs are surfaces with a slope of greater than 2:12 inches as determined by ASTM E1918-06 *Standard Test Method for Measuring Solar Reflectance of Horizontal and Low-Sloped Surfaces in the Field*.

**3.2.3. Hiding Power (Opacity).** The product shall demonstrate a minimum 0.95 contrast ratio at 400 square feet per gallon as determined by ASTM D2805-96a (2003), *Standard Test Method for Hiding Power of Paints by Reflectometry*. Compliance will be determined on dried film of the un-tinted white paint having a minimum 80% reflectance.

**3.3. Anti-Corrosive Coatings.** In addition to the requirements listed in 3.2, anti-corrosive coatings shall meet the following requirements:

**3.3.1. Corrosion Resistance.** The product shall have a minimum rust rating of 9 per SSPC-VIS 2 after 300 hours of exposure as determined by ASTM D5894-05 *Standard Practice for Cyclic Salt Fog/UV Exposure of Painted Metal, (Alternating Exposures in a Fog/Dry Cabinet and a UV/Condensation Cabinet)*.

**3.4. Floor Coatings.** In addition to the requirements listed in 3.2, floor coatings shall meet the following requirements:

**3.4.1. Alkali Resistance.** The product shall show no signs of lifting, wrinkling, disintegration or more than a slight color change as determined by ASTM D7072-04 *Standard Practice for Evaluating Accelerated Efflorescence of Latex Coatings*.

**3.4.2. Scrubbability (Abrasion Resistance).** The product shall demonstrate a wear index of 200 or less as determined by ASTM D4060-07, *Standard Test Method for Abrasion Resistance of Organic Coatings by the Taber Abraser*.

**3.5. Interior Topcoats.** In addition to requirements listed in 3.2, interior topcoats shall meet the following requirements:

**3.5.1. Scrubbability (Abrasion Resistance).** The product shall demonstrate the following minimum requirements for scrub cycles before failure as determined by ASTM D2486-06 *Standard Test Method for Scrub Resistance of Interior Latex Flat Wall Paints*.

Flat Topcoat	400 scrub cycles before failure
Non-Flat Topcoat	700 scrub cycles before failure

**3.5.2. Washability (Stain Removal).** The product shall demonstrate the following minimum requirements for stain removal as determined by ASTM 4828-91 *Mechanical Method, Standard Test Method for Practical Washability of Organic Coatings*.

Flat Topcoat	5 minimum rating
Non-Flat Topcoat	7 minimum rating

**3.6. Exterior Topcoats.** In addition to the requirements listed in 3.2, exterior topcoats shall meet the following requirements:

**3.6.1. Biological Growth.** The product shall attain a surface disfigurement rating of 8 or greater as determined by ASTM D5589-97(2002) *Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Algal Defacement* and ASTM D5590-00(2005) *Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay* or ASTM D3273-00(2005) *Standard Test Method for Resistance to Growth of Mold on the Surface of Interior Coatings in an Environmental Chamber*<sup>3</sup>.

**3.6.2. Fade Resistance.** The product shall demonstrate a minimum durability (color change <1) of 1000 hours using a Xenon Arc or QUV-A bulbs with a moisture and/or condensation cycle following the guidelines in ASTM G151-06 *Standard Practice for Exposing Nonmetallic Materials in Accelerated Test Devices that Use Laboratory Light Source* or ASTM G155-05a *Standard Practice for Operating Xenon Arc Light Apparatus for Exposure of Non-Metallic Materials*.

**3.6.3. Flexibility.** The product shall show no signs of cracking, peeling or loss of adhesion as determined by ASTM D522-93a (2001) *Standard Test Methods for Mandrel Bend Test of Attached Organic Coatings*.

**3.6.4. Water Resistance.** The product shall show no signs of washing off, lifting or wrinkling as tested by ASTM D1735-04 *Standard Practice for Testing Water Resistance of Coatings Using Water Fog Apparatus*.

**3.7. Alternative Performance Requirements.** Alternatively, a product can demonstrate adequate performance through using another scientifically validated test method under controlled and reproducible laboratory conditions if accompanied by justification for the method modification and documented in sufficient detail.

#### **4.0 PRODUCT-SPECIFIC HEALTH AND ENVIRONMENTAL REQUIREMENTS**

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<sup>3</sup> Evaluated according to ASTM D3274-95(2002) *Standard Test Method for Evaluating Degree of Surface Disfigurement of Paint Films by Microbial (Fungal or Algal) Growth or Soil and Dirt Accumulation*.

**4.1. Compound Prohibitions.** The product shall not contain any ingredients that are carcinogens, mutagens, reproductive toxins, hazardous air pollutants or ozone-depleting compounds. An exception shall be made for titanium dioxide.<sup>4</sup>

Naturally occurring elements and chlorinated organics, which may be present as a result of chlorination of the water supply, are not considered ingredients if the concentrations are below the applicable maximum contaminant levels in the National Primary Drinking Water Standards found in 40 CFR, Part 141.

**4.2. Specific Compound Prohibitions.** The product shall not contain the following ingredients:

- 1,2-dichlorobenzene
- Alkylphenol ethoxylates (APEs)
- Formaldehyde-donors
- Heavy metals, including lead, mercury, cadmium, hexavalent chromium and antimony in the elemental form or compounds
- Phthalates
- Triphenyl tins (TPT) and tributyl tins (TBT)

**4.3. Volatile Aromatic Compound Content Limit.** The product shall contain no more than 0.5% by weight of sum total of volatile aromatic compounds. Testing for the concentration of these compounds will be performed if they are determined to be present in the product during a materials audit.

**4.4. Volatile Organic Compound (VOC) Content Limit.** The VOC concentration of the product shall not exceed those listed below in grams of VOC per liter of product as determined by International Organization for Standardization (ISO) 11890-2 *Paints and varnishes -- Determination of volatile organic compound (VOC) content Part 2: GC/MS method* or ASTM D6886-03 *Standard Test Method for Speciation of the Volatile Organic Compounds (VOCs) in Low VOC Content Waterborne Air-Dry Coatings by Gas Chromatography* using 250°C as a specified limit.<sup>5</sup> Alternatively, another scientifically validated test method may be used if accompanied by justification for the method modification and documented in sufficient detail.

The calculation of VOC shall exclude water and colorants added at the point-of-sale.

<i>Product Type</i>	<i>VOC level (in g/L)</i>
Flat Topcoat	50
Non-Flat Topcoat	100

<sup>4</sup> Titanium Dioxide: EC Number 236-675-5, CAS Number 13463-67-7

<sup>5</sup> For VOC levels >15%, US EPA Method 24 or ISO 11890 *Paints and varnishes -- Determination of volatile organic compound (VOC) content Part 1: Difference method* may be used.

<i>Product Type</i>	<i>VOC level (in g/L)</i>
Primer or Undercoat	100
Floor Coating	100
Reflective Coating	100
Anti Corrosive Coating	250

**4.5. Colorant Added at the Point-of-Sale VOC Content Limit.** The VOC concentration of the product including colorant added at the point-of-sale shall not exceed those listed below in grams of VOC per liter of product as determined by the methods listed in Section 4.4. Green Seal will apply an average VOC level calculation unless a manufacturer can provide documentation of the colorant(s) VOC levels and specifies that only those colorant(s) tested shall be used with the product.

<i>Product Type</i>	<i>VOC level (in g/L)</i>
Flat Topcoat with colorant added at the point-of-sale	80
Non-Flat Topcoat with colorant added at the point-of-sale	130
Primer or Undercoat with colorant added at the point-of-sale	130
Floor Coating with colorant added at the point-of-sale	130
Reflective Coating with colorant added at the point-of-sale	130
Anti Corrosive Coating with colorant added at the point-of-sale	280

## 5.0 END-OF-LIFE MANAGEMENT

**5.1. Consumer Education.** The manufacturer shall provide information to the consumer through print, online or other accessible media regarding:

- Proper purchasing of product amount needed for a specified job.
- Instructions on proper use of the product.
- Discouraging improper disposal of the product.
- Consulting with local authorities for proper disposal or recycling opportunities for leftover product and packaging.
- If a manufacturer provides a take-back program, instructions on how the product and packaging can be returned.

**5.2.** Leftover paint from the manufacturing process shall be utilized locally and/or domestically where there are existing markets.

## **6.0 PRIMARY PACKAGING REQUIREMENTS**

**6.1. Recyclable Packaging.** The packaging shall be recyclable. An exception shall be made for packaging that can be recycled as part of a manufacturer take-back program or packaging that contains a minimum of 10% recovered material content.

**6.2. Recovered Material Content.** The packaging shall contain a state-of-the-art amount of recovered and post-consumer content. Where a product's packaging is below these levels, the manufacturer must demonstrate that efforts have been made to use the maximum available post-consumer material in packaging.

**6.3. Heavy Metal Restrictions.** Heavy metals, including lead, mercury, cadmium, and hexavalent chromium, shall not be intentionally introduced. Further, the sum of the concentration levels of these metals present shall not exceed 100 parts per million by weight (0.01%); an exception is allowed for packages that would not exceed this maximum level but for the addition of recovered materials. Further, intentional introduction does not include the use of one of the metals as a processing aid or intermediate to impart certain chemical or physical changes during manufacturing, where the incidental retention of a residual of that metal in the final package or packaging component is not desired or deliberate, if the final package or packaging component complies with the incidental concentration restrictions of 100 ppm.

**6.4. Other Restrictions.** Phthalates are prohibited from being intentionally introduced; an exception is allowed for packages that would not have added phthalates but for the addition of recovered material.

## **7.0 LABELING REQUIREMENTS**

**7.1.** The manufacturer's label shall include a statement discouraging improper disposal of product and encouraging consultation with local authorities regarding proper disposal or recycling opportunities for leftover product and packaging. If the manufacturer provides a take-back program, the label shall include instructions on how the product and packaging can be returned.

**7.2.** The Green Seal Certification Mark may appear on the product's packaging.

**7.3.** The Green Seal Certification Mark shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead consumers as to the extent or nature of the certification.

**7.4.** Whenever the certification mark appears on a package, the package shall contain a description of the basis for certification. The description shall be in a location, style, and typeface that are easily readable. Unless otherwise approved in writing by Green Seal, the description shall, as applicable, read:

This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements and reduced use of hazardous substances and reduced volatile organic compounds (VOCs).

## ADDENDUM

### Green Seal Criteria for Verification of Optional Claims for GS-11 Certified Paints and Coatings

#### A. SCOPE

This criteria document establishes environmental requirements for optional verified claims on GS-11 certified products.

*There is emphasis on demonstrated leadership in the following environmental impact areas: energy reduction, waste reduction, resource minimization (including water), and emissions reduction.*

#### B. DEFINITIONS

**B.1. Alternative fueled vehicles:** The vehicle(s) runs predominantly on compressed natural gas or electrically-generated power. The vehicle(s) complies with this requirement if it is demonstrated through fuel purchase records and miles driven records for the vehicle(s) that gasoline purchases for the vehicle(s) do not exceed the amount required to drive the vehicle(s) 15% of the miles driven.

**B.2. Carbon offsets:** Mitigation of greenhouse gas emissions generated during the product manufacturing and distribution, using reduction measures that may be purchased from a third-party carbon offset provider.

**B.3. Colorant:** Concentrated color (dyes or pigments) that can be added to finished paints or coatings to make specific colors. Unless specified otherwise, it is the maximum amount of colorant recommended for use by the manufacturer.

**B.4. Greenhouse gas (GHG):** Components of the atmosphere that contribute to the greenhouse effect including water vapor, carbon dioxide, methane, nitrous oxide and ozone.

**B.5. Manufacturing facility(ies):** Location(s) where the final certified product is manufactured or produced. If there are multiple locations, all locations where the certified product is manufactured or produced shall be considered.

**B.6. Renewable Energy:** Energy from non-depleting sources and derived from natural processes that are replenished including wind, solar, water, geothermal, and biofuels.

**B.7. Volatile Organic Compound (VOC):** Any organic compound which participates in atmospheric photochemical reactions as defined by the U.S. Environmental Protection Agency in 40 CFR §51.100 (s), (s) (1) and has an initial

boiling point lower than or equal to 250°C measured at standard conditions of temperature and pressure.

**B.8. Waste:** By-products from the manufacturing of the product, not included in the finished product, that are not salable and are disposed, including wastewater.

## C. VERIFIED CLAIM CRITERIA:

**C.1. Zero VOC:** A product shall be verified to be zero VOC if VOC levels, including colorants added at the point-of-sale, are below detectable limits as determined by the methods described in section 4.4 of GS-11. The manufacturer shall include labeling that only the colorant(s) tested shall be used with the product.

**C.2. Manufactured with Renewable Energy:** A product shall be verified to be manufactured with renewable energy if the manufacturing facility(ies) of the product is fueled by at least 75% renewable energy, not including any renewable energy certificates.

**C.3. Shipped using Alternative Fuels:** A product shall be verified to be shipped using alternative fueled vehicles if the manufacturer demonstrates that 100% of the product distribution uses alternative fueled vehicles.

**C.4. Manufactured with Zero Waste:** A product shall be verified to be manufactured with zero waste if the manufacturing facility(ies) demonstrate there is no waste (solid or water) disposal from the manufacturing process. Utilization of such materials must be demonstrated to be either within the company or with proven partnerships.

**C.5. Manufactured with Zero GHG Emissions:** A product shall be verified to be manufactured with zero GHG emissions if the manufacturing facility(ies) demonstrate zero net greenhouse gas emissions during production. This can be achieved within the company, with proven partnerships, or through emission data accompanied by supplementary carbon offset records.

## D. LABELING REQUIREMENTS

**D.1.** The verification claim may only appear on packaging, literature or marketing materials for GS-11 certified products.

**D.2.** The verification claim shall not be used in conjunction with any modifying terms, phrases, or graphic images that might mislead consumers as to the extent or nature of the verification.

**D.3.** Whenever the verification claim appears on a package, the package shall contain a description of the basis for certification and the claim verified. The description shall be in a location, style, and typeface that are easily readable. Unless otherwise approved in writing by Green Seal, the description shall, as applicable, read as follows:

**Zero VOC:** This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements and reduced use of hazardous substances and, including colorants added at the point-of-sale, is verified to have zero volatile organic compounds (VOCs).

**Manufactured with Renewable Energy:** This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements, reduced use of hazardous substances, and reduced volatile organics (VOCs). This product is verified by Green Seal™ to have been manufactured with at least 75% renewable energy.

**Shipped using Alternative Fuels:** This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements, reduced use of hazardous substances, and reduced volatile organics (VOCs). This product is verified by Green Seal™ to have been distributed by alternatively fueled vehicles.

**Manufactured with Zero Waste:** This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements, reduced use of hazardous substances, and reduced volatile organics (VOCs). This product is verified by Green Seal™ to have been manufactured in a process that produced zero net waste.

**Manufactured with Zero GHG Emissions:** This product meets the Green Seal™ environmental standard for paints and coatings based on performance requirements, reduced use of hazardous substances, and reduced volatile organics (VOCs). This product is verified by Green Seal™ to have been manufactured with zero net greenhouse gas emissions.