

## SCOPING DOCUMENT – DO NOT CITE

**Green Seal Scoping Document for GS-11/GC-03 Standard Revision**

*Note: GC-03 Anti-corrosive paints may be incorporated into the GS-11 Paints Revision*

**Paints (GS-11)**

*First Edition May 20, 1993*

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## ENVIRONMENTAL STANDARD

**1. Scope.**

This Standard establishes environmental requirements for paints. The standard does not include stains, clear finishes, or paints sold in aerosol cans.

*Issues to consider: What other types of coatings are similar enough in formulation and environmental impacts to be included in GS-11? What other types of coatings are different enough in either formulation, manufacturing or environmental impacts to be treated under a separate standard?*

**2. Definitions.**

For the purpose of this Standard, the following definitions apply.

**2.1 Paints:** Liquid, liquefiable or mastic composition that is converted to a solid protective, decorative, or functional adherent film after application as a thin layer. These coatings are intended for on-site application to interior or exterior surfaces of residential, commercial, institutional or industrial buildings.<sup>1</sup>

**2.2 Volatile Organic Compounds (VOCs):** Compounds as defined by U. S. Environmental Protection Agency (EPA) in 40 CFR § 51.100 (s), (s) (1).

**2.3 Aromatic Compounds:** Hydrocarbon compounds containing one or more 6-carbon benzene rings in the molecular structure.

*Issues to consider: Are the definitions of the given terms descriptive enough? Should additional terms be defined?*

**3. Product-Specific Performance Requirements.**

**3.1 Interior Topcoats.** Products intended for interior opaque topcoat use shall meet the following requirements.

**3.1.1 Scrubbability (Abrasion Resistance).** The product shall demonstrate at least 100 cycles (200 separate strokes) before failure, as determined by American Society for Testing and Materials (ASTM) D2486-89, Standard Test Method for Scrub Resistance of Interior Latex Flat Wall Paints.

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**3.1.2 Hiding Power (Opacity).** The product shall demonstrate a minimum 0.95 contrast ratio at 400 square feet per gallon as determined by ASTM D2805-88, Standard Test Method for Hiding Power of Paints by Reflectometry. Compliance will be determined by testing a white paint having a minimum 80% reflectance.

**3.1.3 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 <sup>2</sup>	5 minimum rating
Non-Flat	7 minimum rating

**3.2 Exterior Topcoats.** Products intended for exterior opaque topcoat use shall meet the following requirements.

**3.2.1 Hiding Power (Opacity).** The product shall demonstrate a minimum 0.95 contrast ratio at 400 square feet per gallon as determined by ASTM D2805-88, Standard Test Method for Hiding Power of Paints by Reflectometry. Compliance will be determined by testing a white paint having a minimum 80% reflectance.

*Issues to consider: Are the performance criteria listed still stringent enough to determine performance in today's market? Should other performance criteria be added in order to determine performance of an environmentally preferable paint? (e.g. Adhesion, Accelerated Weathering, Flexibility, Water Resistance, Biological Growth, etc.)*

#### 4. Product-Specific Environmental Requirements.

##### 4.1 Chemical Component Limitations.

**4.1.1 VOCs.** The VOC concentrations of the product shall not exceed those listed below as determined by U. S. Environmental Protection Agency (EPA) Reference Test Method 24 (Determination of Volatile Matter Content, Water Content, Density Volume Solids, and Weight Solids of Surface Coatings), Code of Federal Regulations Title 40, Part 60, Appendix A.

The calculation of VOC shall exclude water and tinting color added at the point of sale.

##### **Interior Coatings:**

<u>Coating</u>	<u>VOC weight in grams/liter of product</u>
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<u>Type</u>	<u>minus water</u>
Non-flat <sup>3</sup>	150
Flat	50

**Exterior Coatings:**

<u>Coating Type</u>	<u>VOC weight in grams/liter of product minus water</u>
Non-flat <sup>4</sup>	200
Flat	100

**4.1.2 Aromatic Compounds.** The product must contain no more than 1.0% by weight of the sum total of 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.

*Issues to consider: Are the VOC and/or aromatic compound limits effective in protecting human health and environmental effects? Should the VOC and/or aromatic compound limits be modified? Are VOC and/or aromatic compound limits as described still an effective measure of determining the human health and environmental impacts of paints?*

**4.2 Chemical Component Restrictions.** The manufacturer shall demonstrate that the following chemical compounds are not used as ingredients in the manufacture of the product.

**4.2.1 Halomethanes**

methylene chloride

**4.2.2 Chlorinated ethanes**

1,1,1-trichloroethane

**4.2.3 Aromatic solvents**

benzene

toluene (methylbenzene)

ethylbenzene

**4.2.4 Chlorinated ethylenes**

vinyl chloride

**4.2.5 Polynuclear aromatics**

naphthalene

**4.2.6 Chlorobenzenes**

1,2-dichlorobenzene

**4.2.7 Phthalate esters**

di (2-ethylhexyl) phthalate

butyl benzyl phthalate

di-n-butyl phthalate

di-n-octyl phthalate

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diethyl phthalate

dimethyl phthalate

**4.2.8 Miscellaneous semi-volatile organics**

isophorone

**4.2.9 Metals and their compounds**

antimony

cadmium

hexavalent chromium

lead

mercury

**4.2.10 Preservatives (antifouling agents)**

formaldehyde

**4.2.11 Ketones**

methyl ethyl ketone

methyl isobutyl ketone

**4.2.12 Miscellaneous volatile organics**

acrolein

acrylonitrile

*Issues to consider: Is individually listing 25 prohibited chemicals effective in preventing harmful components in the formulation of paint? Would using groups of harmful chemicals (e.g. carcinogens, mutagens, reproductive toxins) as identified in peer-reviewed established compound lists (e.g. carcinogens identified by International Agency for Research on Cancer (IARC) or reproductive toxins identified by California Proposition 65, etc.) be more comprehensive and/or effective in protecting human health and environmental effects? Would using peer-reviewed established compound lists be too prohibitive in the formulation of paint?*

**5. Packaging Requirements.****5.1 Toxics in Packaging.**

**5.1.1** The manufacturer shall demonstrate that paint cans and their components are not fabricated with lead.

*Issues to consider: Are the packaging requirements given still applicable to today's market? Should other requirements be added to better address the environmental impacts of the end-of-life management of paint?*

**Appendix: Labeling Requirements for Certification by Green Seal**

Unless otherwise approved in writing by Green Seal, the following labeling requirements shall apply:

1. The Green Seal Certification Mark must appear on the packaging.
2. Whenever the certification mark appears on a package or product, the product or package must contain a description of the basis for the certification. The

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description shall be in a location, style, and typeface that are easily readable by the consumer. The description shall read as follows:

*This product meets Green Seal environmental standards for volatile organic compounds (VOCs) and other ingredients.*

3. The packaging shall be accompanied by a brief statement discouraging disposal into drains and encouraging consultation with local authorities for disposal requirements or recycling opportunities.
4. Paints which have been formulated without VOCs shall be designated Class A and may contain a special designation to that effect on the label.

*Additional issues to consider: What additional criteria should be considered to further reduce the environmental impact, especially the impact to climate change like through the energy usage (direct and indirect) in the product's life cycle?*

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