Health Product Declaration®
Open Standard

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Health Product Declaration Open Standard Version 2.1
Effective Date: May 1, 2017

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1. Overview of the Health Product Declaration® Open Standard

1.0 About the Health Product Declaration® Open Standard

The Health Product Declaration (HPD) Open Standard provides for the disclosure of product contents and potential associated human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator™, and when available, full GreenScreen® assessments. The HPD Open Standard consists of two components:

- The HPD Open Standard Format (HPD Format) is a consistent structural framework for the presentation of data elements required for a Health Product Declaration.
- The HPD Open Standard Instructions (HPD Instructions) define the terms and requirements for the data elements included in the Standard Format.

A disclosure completed in compliance with the HPD Open Standard is referred to as a "Health Product Declaration," or "HPD."

1.1 Purpose

This document provides both the Instructions required to prepare a Health Product Declaration (HPD) and the HPD Format in Appendix A.

The Instructions include:

- HPD Format section-by-section guidance that defines and explains requirements for each data element,
- variations that expand on the section guidance to create a compliant HPD in specific situations,
- checklist for a compliant HPD, to assist users in ensuring completeness and compliance,
- glossary of terms and programs cited,
- Appendices B-E that provide supplementary information needed to ensure hazard screenings can be completed regardless of the method used to prepare an HPD.

1.2 Scope

The Health Product Declaration Open Standard is the only authoritative reference for preparation of a Health Product Declaration.

1.3 HPD Open Standard Exclusions

The HPD Open Standard v2.1 is not:

- a method for the assessment of exposure or risk associated with product handling or use[1],
- a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.

[1] See HPD Collaborative website for definitions and discussion of these terms.

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

1.4 Preparing an HPD

An HPD is to be prepared by the product's manufacturer. The manufacturer may obtain third party assistance, if desired. To facilitate the preparation of an HPD and to further support quality engagement of users and creators of HPDs, the HPD Collaborative website provides tools and additional information, including guidance to support different methods for preparing an HPD. HPD Collaborative tools are aligned and consistent with the HPD Open Standard and, when used together with the HPD Open Standard, assist the manufacturer in creating a complete and standard-compliant HPD. .

An HPD must contain current data. Requirements for updating are addressed in HPD Format Section 1, Summary, Expiry Date [See 2.1.6.7].

1.5 About the HPD Collaborative

The HPD Open Standard was created and is maintained and evolved by the Health Product Declaration Collaborative (the HPD Collaborative), a customer-led organization composed of stakeholders throughout the building industry. The HPD Collaborative is committed to the continuous improvement of building products through transparency, openness, and innovation throughout the product supply chain.

1.6 More information

For more information about the Health Product Declaration Open Standard, the HPD Collaborative, the most current versions of relevant documents, and future updates, visit www.hpd-collaborative.org.

2. HPD Open Standard Format Section-by-Section Guidance

2.0 Introduction

Each section and data element of the HPD Open Standard is described below, along with additional guidance as needed.

The Health Product Declaration (HPD) Open Standard reports product contents and associated health information. This information includes human and environmental health hazards. Hazard associations are based on the HPD Priority Hazard Lists, the GreenScreen List Translator, and when available, full GreenScreen assessments.

For the purpose of HPD disclosure, homogeneous materials ("materials") as well as the itemized chemical substances ("substances") that comprise each material are defined below:

- **Material**: (Homogeneous Material) A uniform solid, liquid, or gas composed of one or more substances that cannot be mechanically disjointed, in principle. It may be a chemical formulation or compound, of undefinable composition[2], or a combination of the two. Coatings and finishes such as plating, powder coats, enamels, etc. are considered unique homogeneous materials.[3]
- **Substance**: (Chemical Substance) Matter of constant composition, best characterized by the entities (molecules, formula units, atoms) it is composed of and its physical properties such as density, refractive index, electric conductivity, melting point, etc.[4] (i.e. intentionally used substances, intentional reaction products, impurities).

2.1 HPD Open Standard Format Section 1: Summary

2.1.0 HPD Open Standard Format Section 1 Overview

This section contains instructions for the first page of the HPD Format:

- general information about the product and manufacturer and the HPD itself that appears in the header and footer,
- summary information for the Content Inventory, Content in Descending Order of Quantity, Inventory and Screening Notes, VOC Content, Certifications and Compliance, and Publication. Entries in this Section are based on more detailed information provided in HPD Format Sections 2 and 3.

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[2] Materials of indefinable composition, classified by the European Chemicals Agency (ECHA) as Substances of Unknown or Variable Compositions, Complex Reaction Products, or Biological Materials (UVCBs), are a mixture of unknown or variable composition, typically with an unrefined nature and/or uncontrolled source. These substances have additional identification requirements due to their unknown or variable composition. Identifiers such as source, manufacturing process and genetic code may be required to fully define the substance. How to list such materials on the HPD is explained in Special Conditions for Materials and Substances [3.5].

[3] Adapted from RoHS definition: http://ec.europa.eu/environment/waste/rohs_eee/pdf/faq.pdf.

[4] Adapted from the International Union of Pure and Applied Chemistry (IUPAC) Compendium of Chemical Terminology.

2.1.1 General Information

2.1.1.1 Product Name

Product brand name. If the HPD covers multiple brands, secondary brand names are listed in the Product Description [See 2.1.1.4]. Refer to Variations, Listing Multiple Products in a Single HPD [See 3.1] for further guidance on how similar products and product lines are covered in a single HPD.

2.1.1.2 Manufacturer Name

Complete name of the company responsible for the final product. If this company is a subsidiary, the parent company is included in the Product Description [See 2.1.1.4].

2.1.1.3 Classification

Identifier associated with the product. The six-digit Construction Specifications Institute MasterFormat® designation is the primary and preferred identifier. Additional identifiers (e.g., Uniclass, National Building Specification, NATSPEC) may be used if there is no MasterFormat designation or may be listed in the Product Description [See 2.1.1.4]. In instances when multiple classifications apply, the primary identifier is indicated for Classification and others are listed in the Product Description or HPD Format Section 5: General Notes [See 2.5]. In instances where no classifications apply (e.g., if the HPD is for a material that is typically used as a part of a product rather than delivered for use independently), “N/A” is indicated for Classification with an explanation in the Product Description [See 2.1.1.4].

2.1.1.4 Product Description

Brief description of the product. This section is used to indicate:

- if the product is part of a system or assembly and to describe what is included in this HPD,
- function or use of the product,
- any special use or performance-based criteria (such as traffic level requirements for a flooring product),
- the parent company of a subsidiary,
- additional specification references or other workflow identification numbers, such as UniClass.

Extended descriptions may be continued in HPD Format Section 5: General Notes [See 2.5].

2.1.1.5 HPD Tool Reference

Reference to the tool used to create the HPD. Statement must read as follows: “Health Product Declaration v2.1 created via [title of tool].”

2.1.1.6 HPD URL

Functional website link to the online location where the HPD is available for download. The manufacturer and product name are referenced in the URL, if possible.

2.1.2 Content Inventory

Product content inventory is dependent on knowledge of information about substances at the material or product level.

2.1.2.0 Inventory Reporting Methods

Methods for organizing and reporting information about substances in an HPD. There are two methods for creating a content inventory:

- *Nested Materials Inventory Method.* Lists all materials and then lists substances within each material above the reportable threshold. This method provides material level information in a useful context that aligns with other product inventory, screening, and optimization programs.
- *Basic Inventory Method.* Provides a single list of substances above the reportable threshold in the product. This method does not provide material level information.

2.1.2.1 Threshold: Disclosed Per Material or Per Product

Concentration(s) above which the manufacturer or supplier itemizes substances present within the material or product, as applicable.

- Per Material: a threshold is defined for each material
- Per Product: a threshold is defined for the entire product

A Basic Inventory has a per product threshold; a Nested Materials Inventory can have a single per product threshold or multiple per material thresholds.

Options for thresholds include:

- "100 ppm,"
- "1,000 ppm,"
- "per GHS SDS" (Globally Harmonized System of Classification and Labeling of Chemicals Safety Data Sheets),
- "per OSHA MSDS" (Occupational Safety and Health Administration Material Safety Data Sheet),
- "Other."

In a Nested Materials Inventory with thresholds for each material, multiple thresholds may be indicated within a single HPD if different materials in HPD Format Section 2 have been itemized to different levels. Thresholds may vary depending on material supplier knowledge and willingness to share information. Refer to Inventory Threshold [See 2.2.1.4] for related guidance.

2.1.2.2 Residuals and Impurities Considered

For Nested Materials Inventory: Number of materials in a product that include consideration of residuals and impurities ("X") as compared to the total number of materials ("Y"). An explanation is required and must be located in HPD Format Section 2: Residuals and Impurities Notes [See 2.2.1.6]. Refer to Residuals/Impurities [See 2.2.1.5] for related guidance.

For Basic Inventory: Whether residuals and impurities were considered. An explanation is required and must be located in HPD Format Section 2: Residuals and Impurities Notes [See 2.2.1.6]. Refer to Residuals/Impurities [See 2.2.1.5] for related guidance.

2.1.2.3 Characterized, Screened, Identified

Summary of the degree of disclosure of unambiguous data in the product's content inventory.

- **Characterized**: Are the Percent Weight and Role provided for all substances?
- **Screened**: Are all substances screened using Priority Hazard Lists with results disclosed?
- **Identified**: Are all substances disclosed by Name (Specific or Generic) and Identifier?

For each of the above items:

- "Yes" indicates the response is true for all substances inventoried, based on the selected Inventory Threshold [See 2.2.1.4].
- "No" indicates the response is not true for one or more substances inventoried, based on the selected Inventory Threshold.

This summary applies to each individual substance present in each material or in the product at or above the stated Inventory Threshold [See 2.2.1.4] unless specifically allowed otherwise by the instructions in Variations, Special Conditions for Materials and Substances [See 3.5].

2.1.3 Content in Descending Order of Quantity

2.1.3.1 Content in Descending Order of Quantity

Nested Materials Inventory: Nested summary, in the order inventoried in HPD Format Section 2, of a product's materials, the substances in each material, each substance's GreenScreen score, and the hazards associated with each substance. Materials are listed from highest to lowest percentage by weight − Percent (%) − in the product. Each material has a secondary bracketed list of substances ordered from highest to lowest percentage by weight in that material. Following each substance, the associated abbreviation for the GreenScreen Benchmark™ or List Translator Score and the abbreviation for each hazard type, as applicable, are indicated. Refer to "GreenScreen" and "Hazard Types" in the References [See 2.6.2.1 and 2.6.2.2] for abbreviations. For clarity, each element in this summary is differentiated visually. Refer to Appendix A for the sample HPD Format to view configuration.

Basic Inventory: Summary, in the order inventoried in HPD Format Section 2, of the substances in the product, each substance's GreenScreen score, and the hazards associated with each substance. Substances are listed from highest to lowest percentage by weight − Percent (%) − in the product. Following each substance, the associated abbreviation for the GreenScreen Benchmark or List Translator Score and the abbreviation for each hazard type, as applicable, are indicated. Refer to "GreenScreen" and "Hazard Types" in the References [See 2.6.2.1 and 2.6.2.2] for abbreviations. For clarity, each element in this summary is differentiated visually. Refer to Appendix A for the sample HPD Format to view configuration.

2.1.3.2 Number of GreenScreen BM-4/BM-3 contents

Number of substances in a product, if any, that have a full GreenScreen assessment with a score of either Benchmark 4 (prefer-safer chemical) or Benchmark 3 (use but still opportunity for improvement). Response must be substantiated by the information provided for each substance in HPD Format Section 2, GreenScreen [See 2.2.2.4].

2.1.3.3 Contents highest concern GreenScreen Benchmark or List Translator Score

Single highest concern GreenScreen Benchmark or List Translator Score among all of the substances in a product. Response must be substantiated by the information provided for each substance in HPD Format Section 2, GreenScreen [See 2.2.2.4].

2.1.3.4 Nanomaterial

An indication of whether any substances in the product have been characterized as a nanomaterial. Refer to Glossary [See 5] for definition. Response must be substantiated by the information provided for each substance in HPD Format Section 2, Nano [See 2.2.2.6], and must be one of the following:

- *If any substance is identified as a nanomaterial:* "One or more contents are characterized as a nanomaterial."
- *If all substances are identified not to be nanomaterials:* "No contents are characterized as a nanomaterial."
- *If no substance is identified as a nanomaterial, and it is unknown whether one or more substances is a nanomaterial:* "One or more contents are characterized as unknown."

2.1.3.5 Inventory and screening notes

Explanation of information provided in HPD Format Section 1: Summary. Extended descriptions may be continued in HPD Format Section 5: General Notes [See 2.5: General Notes] or in the allocated Notes spaces throughout HPD Format Section 2 [See 2.2.1.7: Material or Product Notes and 2.2.2.9: Substance Notes].

Required Entries:

- explanation of each "No" answer to Characterized, Screened, and Identified [See 2.1.2.3],
- identification of each relevant Special Condition [See 3.5], why it applies, and how it may influence responses to these entries (e.g., "The only Materials or Substances that are not 'Screened' are regarded as Special Condition(s) by the HPD Collaborative"),
- explanation when "Other" is indicated for Threshold entry [See 2.2.1.4], unless provided in the Material or Product Notes,

Optional Entries:

To augment the summary information in Threshold [See 2.1.2.1], and Characterized, Screened, Identified [See 2.1.2.3], this section may be used to identify the percentage of a product's materials or substances that correspond to particular aspects of disclosure (e.g., "Materials or Substances representing 95.0% of the product weight meet the 1,000 ppm Threshold and are Screened" or "For Materials or Substances representing 5.0% of the product weight, only SDS level disclosure is possible because suppliers declined to provide information").

2.1.4 Volatile Organic Compound (VOC) Content

2.1.4.0 General Information on VOCs

The information that follows in Sections 2.1.4.1 – 2.1.4.3 must be provided for all liquid/wet-applied products.

If the HPD is for a product that is not liquid/wet applied, the following phrase is inserted in lieu of the entries in this sub-section: "VOC content data is not applicable for this product category."

2.1.4.1 Material (g/l)

Numerical value of Actual/Material VOC content as the product is supplied. This is sometimes referred to as "VOCs as supplied" or "Applied VOCs."[5]

2.1.4.2 Regulatory (g/l)

Numerical value of Regulatory VOC content[6], also referred to as "Coating" content. Regulatory VOC content compares regulated, or non-exempt, VOCs against non-exempt volume. Water and exempt solvents are not included. If the product is a Low Solids Coating[7], "N/A" is indicated here.

2.1.4.3 Does the product contain exempt VOCs?

Indication of whether the product includes VOCs that are exempted by the U.S. Environmental Protection Agency (EPA).

- "Yes" indicates the product contains VOCs that are exempted by EPA from regulatory reporting and therefore will not be included in the VOC content totals[8].
- "No" indicates the product does not contain EPA exempt VOCs.
- If the product contains a substance that is an exempt VOC, "Exempt VOC" must be noted in the HPD Format Section 2 Substance Notes [See 2.2.2.9] for the corresponding substance.

2.1.4.4 Are ultra-low VOC tints available?

Indication for tintable products of whether ultra-low VOC tints may be available at the point of retail sale. For tintable products:

- "Yes" indicates product is tintable and tints that meet the South Coast Air Quality Management District (SCAQMD) Super Compliant Coatings definition[9] and/or Federal Trade Commission (FTC) guidance for VOC free claims[10] are offered by the manufacturer to distributors for this product, resulting in the addition of less than 10 g/L of VOC content for any combination of tints. The tinting system is included as an

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5 Actual/Material VOC and Regulatory VOC are measures of VOC content that may be determined by either calculation or by testing. Acceptable methodologies include EPA Method 24 (calculated or tested) or ASTM D6886 testing (direct GC/MS determination) or as per the guidance given in California Air Resources Board (CARB) 2007 Suggested Control Measure for Architectural Coatings or South Coast Air Quality Management District (SCAQMD) Rule 1113, Rule 1168, or appropriate international methodology in use.

6 This is a measure used by many regulatory agencies and is generally higher than "material" or "as supplied" VOC content.

7 For Low Solids Coatings only the "Actual" VOC content is calculated for regulatory purposes. CARB Suggested Control Measure for Architectural Coatings: http://www.arb.ca.gov/coatings/arch/Approved_2007_SCM.pdf

8 Exempted compounds refers to VOC compounds such as acetone and methylene chloride that EPA and some other governmental regulatory agencies exempt from smog-related reporting regulations because the chemicals are not reactive in the atmosphere and hence do not contribute to formation of ground level ozone, though they may be hazardous to human health if inhaled. The EPA list of exempted chemicals is listed in Code of Federal Regulations (CFR) Title 40, Section 51.100, subsection (s)(1). If the product contains exempt VOCs, these must be disclosed in the corresponding Section 2 chemical substance line item.

9 http://www.aqmd.gov/docs/default-source/planning/architectural-coatings/rule-1113-advisories/zero-VOC.pdf?sfvrsn=6

10 See Enforcement Policy Statement regarding VOC Free Claims for Architectural Coatings https://www.ftc.gov/sites/default/files/documents/public_statements/voc-free-claims-architectural-coatings/130306ppgpolicystatement.pdf

accessory in Section 4: Accessories [See 2.4]. The name of the tinting system and how to obtain it must be provided as an "other" Note [See 2.4.3].

- "No" indicates ultra-low tints are not available from distributors of this product.
- "N/A" indicates the product is not tintable at the point of retail sale.

2.1.5 Certifications and Compliance

2.1.5.1 Type of Certification, Name of Certification

Categories and Titles of the first four Certifications and Compliance entries, as indexed in HPD Format Section 3: Certifications and Compliance [See 2.3]. When applicable, certifications related to VOC Emissions and VOC Content are prioritized and must be listed first. Refer to Appendix A for the HPD Standard Format to view configuration.

2.1.5.2 Pre-Checked for Consistency with Other Programs (optional)

Preliminary indicator of consistency with specific requirements of LEED v4 Material Ingredients credit. A mechanical cross-checking of inventory method; threshold; residuals and impurities; characterized, screened, and identified indicators with the specific requirements of the LEED v4 credit; and check of presence of entries for all fields required by HPD Open Standard. This pre-check does not assess data quality, compliance of the HPD with the HPD Open Standard requirements, or requirements for publication [See 2.3.2.2].

Cross checks are:

- ***Option 1***
  - For Nested Inventory Method
    - Threshold: can be per product or per material
    - Threshold level: must be at least 1000 ppm for all materials (per material threshold) or for the entire product (per product threshold)
    - Residuals and impurities: "considered" or "not considered" and explained
    - Characterized: must be "yes"
    - Screened: must be "yes"
    - Identified: may be "yes" or "no" but if "no" must be characterized and screened
    - All data fields required by HPD Open Standard have data present.
  - For Basic Inventory Method
    - Threshold: must be per product
    - Threshold level: must be at least 1000 ppm
    - Residuals and impurities: "considered" or "not considered" and explained
    - Characterized: must be "yes"
    - Screened: must be "yes"
    - Identified: may be "yes" or "no" but if "no" must be characterized and screened
    - All data fields required by HPD Open Standard have data present.
- ***Option 2***
  - For Nested Inventory Method
    - Must meet all requirements for Option 1
    - Threshold: can be per product or per material
    - Threshold: must be at least 100 ppm

- GreenScreen: must have no Benchmark-1 (BM-1) hazards or List Translator-1 (LT-1) or P1 (LT-P1) hazards

- For Basic Inventory Method
  - Must meet all requirements for Option 1
  - Threshold: must be per product
  - Threshold: must be at least 100 ppm
  - GreenScreen: must have no Benchmark-1 (BM-1) hazards or List Translator-1 (LT-1) or P1 (LT-P1) hazards

Details on LEED v4 Material Ingredients requirements that must be cross-checked can be found on the HPDC website [http://www.hpd-collaborative.org/leed-v4-credit-achievement/].

If the requirements of the Pre-Check are met for one or more Option, the following will be printed on the HPD: "LEED v4 Material Ingredients Option 1 and/ or Option 2. If the requirements are not met or the optional pre-check is not conducted, the following will be printed on the HPD: "No pre-checks completed or disclosed."

2.1.6 Preparation, Verification, Publication

2.1.6.1 Third Party Verification

Indicator that HPD is third party verified or not. Third party verification is optional, but if "Yes," verification must use HPDC-approved verification organizations and Third Party Verifier [see 2.1.6.3] must be filled in.

2.1.6.2 Preparer (optional)

Party that prepares the HPD. The HPD can be prepared by the product manufacturer or a third party organization; the manufacturer is responsible for the content in both cases. If prepared by the manufacturer, "Self-prepared" is inserted; if prepared by a third party, the name of the organization is inserted.

2.1.6.3 Third Party Verifier (optional)

Party that checks and attests to the information in the HPD. Verification is optional. Only HPDC-approved third party verifiers qualify and the name of the verifying organization is inserted. Approved verification organizations are listed on the HPDC website [http://www.hpd-collaborative.org/third-party-verification]. Manufacturers cannot verify their own HPDs. If a third party has not verified the HPD, "No" is indicated for Third Party Verification [see 2.1.6.1].

2.1.6.4 Third Party Verification Number (optional)

Unique identifier provided by the verifying organization [See 2.1.6.3] to track the verification of the HPD. If not third party verified, this is left blank.

2.1.6.5 Screening Date

Date of hazard screening. This must reflect the date of the final screening for all substances listed in the HPD against the HPD Priority Hazard Lists to identify relevant Warnings disclosed in the HPD.

2.1.6.6 Published Date

Date of publication. This must reflect the date on which the HPD is made available by the manufacturer for free public distribution. The authoritative location for publishing HPDs is the HPD Public Repository [http://www.hpd-collaborative.org/hpd-public-repository/]

2.1.6.7 Expiry Date

Date of expiration. An HPD must contain data that is current as of the Screening Date and expires no longer than three years after the Screening Date [See 2.1.6.5].

The original Expiry Date may be modified based on one or more of the following occurrences:

- An HPD must be revised within one year of a significant change in a product's contents. A significant change is defined as the addition or removal of content; a change only in Percent (%) weight does not require a revision unless it impacts whether content is present at or above the selected inventory threshold.
    - When an HPD is revised, all product content must be rescreened using the current Priority Hazard Lists to update if hazard type, agency, and warning information has changed.
    - HPD Format Section 3: Certifications and Compliance must also be reviewed to include updates to tests and replacement of outdated certifications.
    - Upon revision, the HPD is reissued with a new screening date and publication date. An HPD expires three years after the screening date.
- The HPD Open Standard is updated on a regular basis, including both Major and Minor (also known as "dot") Version updates.
    - Major Version updates are denoted as "version X.0," (i.e., 1.0, 2.0). A new HPD may be published or an updated HPD republished using an outdated Major Version - Format and Instructions - for up to one year following the Release Date of the subsequent Major Version of the Standard. However, any HPD using an outdated Major Version will expire three years after the Release Date of the subsequent Major Version.
        - Example: an HPD using Version 1.0 after the Version 2.0 release on September 30, 2015 will expire three years after the Version 2.0 release on September 30, 2018.
    - Minor Version updates of the Standard (e.g. Version 2.1) include the correction of errata, updating to be aligned with underlying date-sensitive data sources (such as the GreenScreen methodology), and the addition of new data elements that are typically optional. New HPDs created after the Release Date of a Minor Version update must be created compliant with the Minor Version update. Previously published HPDs using the current Major Version will still be valid through their expiry date. However, if such HPDs are updated, they must be updated using the current Minor Version update.
        - Example: Major Version 2.0 release date is September, 2015 and if Minor Version 2.1 release date is January 2017 – an HPD published prior to the Release Date of Version 2.1 can continue to be used until its expiry date. If that HPD is revised after January 2017, it must be republished using the Version 2.1 Format and Instructions.

When an HPD is revised, all product content must be rescreened using the current Priority Hazard Lists to update if hazard type, agency, and warning information have changed.

- HPD Format Section 3: Certifications and Compliance must also be reviewed to include updates to tests and replacement of outdated certifications. Changes to information in this section do not trigger an HPD update requirement, but if the HPD is updated, this information must be made current as of the Screening Date.
- Upon revision, the HPD is reissued with a new Screening Date,Publication Date, and Expiry Date.

2.2 HPD Open Standard Format Section 2: Content in Descending Order of Quantity

2.2.0 HPD Open Standard Format Section 2 Overview

This section characterizes the materials in a product (Material) and the substances of which each material is composed (Substance) in a Nested Materials Inventory or the substances of which the product is composed in a Basic Inventory. The guidance below is for general situations. Refer to Variations, Special Conditions for Materials and Substances [See 3.5] for further guidance on special circumstances associated with specific materials and substances.

2.2.1 Material or Product

2.2.1.0 General Information on Materials and Products

The Content Inventory can be structured using two methods:

- Nested Materials Inventory Method: must include every material that is part of the product as delivered. Each material must have its own line item entry, regardless of the extent of further inventory at the substance level. For example, a coating or finish must be itemized as a distinct material, whether present on a supplied part or added by the manufacturer producing the HPD, whereas supplied materials that do not remain distinct in the finished product are not inventoried separately (e.g., solution dyes for fabrics). Materials are listed in descending order of quantity in the product.
- Basic Inventory Method: must include every substance above the specified threshold that is part of the product as delivered. Each substance must have its own line item entry.

In both Nested Materials and Basic Inventories, packaging materials that are removed from the product prior to use and materials that are attached to or part of the product for identification purposes only (e.g., tags, stamps, other identifiers) are excluded from inventory requirements. Accessories are not included as part of the Content Inventory and are instead included in HPD Format Section 4 [See 2.4 for further guidance].

In the sections that follow, instructions are provided for the Nested Materials Inventory and Basic Inventory methods.

2.2.1.1 Material or Product Name

Title of the Material (Nested Materials Inventory) or Product (Basic Inventory). Options include:

- the material's or product's specific name (brand),
- a generic name for a material (category/family),
- "Undisclosed" for a material.

If "Undisclosed," the rationale for nondisclosure is explained in the Other Material Notes [See 2.2.1.7].

2.2.1.2 Percent (%)

This item only applies to Nested Materials Inventories. Material's percentage in the final product by weight. This is a characteristic of the product rather than the material; it is assigned when the material is added to the product inventory. A fixed percentage is preferred, however, a percentage range may be provided (e.g., 3.0 – 14.5%). An average or typical percentage may be included in the Other Material or Product Notes [See 2.2.1.7] with an explanation of how the average was derived. Ranges should not exceed 20%. If a range does exceed 20%, the reason for the large range must be described in the Other Material or Product Notes [See 2.2.1.7] for a product to be identified as "Characterized."

- Ranges, variable amounts over time: If the percentage of the material varies over time due to market availability, pricing or other factors, an explanation must be provided in the Other Material or Product Notes [See 2.2.1.7].
- Ranges, similar products: If the HPD is being used to describe several products that are generally similar in content but differ in the percentages of some materials, an explanation must be provided in the Other Material or Product Notes [See 2.2.1.7]. Refer to Variations, Listing Multiple Products in a Single HPD [See 3.1] for further guidance.
- Alternate: If the entry is for a substitute material (such as different species of wood used as a veneer), "Alternate" is indicated. As long as the primary material for which it is an alternate has a disclosed percent or percent range, "Alternate" is sufficient for disclosure of percentage for this material. Refer to Variations, Alternate Materials or Substances [See 3.2] for further guidance on alternate contents.
- Undisclosed: If the percentage is withheld, "Undisclosed" must be entered with an explanation of why this information is withheld in the Other Material or Product Notes [See 2.2.1.7]. The product cannot be identified as "Characterized" if the percentage of any material in the product is "Undisclosed."

2.2.1.3 HPD URL

This item only applies to Nested Materials Inventories. Website link for product in Basic Inventory is provided in 2.1.1.6. Functional website link to an HPD for the material (if one exists). If a URL is provided for an HPD of the material, substance level information must still be itemized on the Product's HPD unless one of the following exceptions apply:

- The material is listed on the Product HPD as an Alternate (see 3.2 Variations, Alternate Materials or Substances).
- The HPD references a Special Condition HPD for this material that the HPD Collaborative has provided for the material type [see 3.5].

For the above exceptions, if a URL is provided, substance and hazard information is not itemized on the Product's HPD and users are directed to the Material HPD for related details.

2.2.1.4 Inventory Threshold

Concentration at or above which substances present within the material or product are itemized by the manufacturer (or supplier as applicable). Options include:

- **100 ppm**: Inventory includes substances at or above 100 ppm (0.01%) concentration in a material.
- **1,000 ppm**: Inventory includes substances at or above 1,000 ppm (0.1%) concentration in a material.
- **Per GHS SDS**[11]: Inventory of substances in a material meets the level of resolution required for Safety Data Sheets as prescribed by the Globally Harmonized System of Classification and Labeling of Chemicals (GHS)[12]: substances that are identified as health hazards are disclosed at 1,000 ppm (0.1%) for reproductive toxicants, carcinogens, and category 1 mutagens, and at 10,000 ppm (1%) for all other hazard categories.
- **Per OSHA MSDS**: Replaced by GHS SDS[13]. Inventory of substances in a material meets the level of resolution required for Material Safety Data Sheets: substances identified as health hazards per CFR 1910.1200 are disclosed at 1,000 ppm (0.1%) for carcinogens, and at 10,000 ppm (1%) for all other hazard categories.
- **Other**: Inventory of substances in a material or product is based on a completely different protocol, or has more or less stringent thresholds than any of those described above. When selected, an explanation must be provided in either the Inventory and Screening Notes or the Other Material or Other Product Notes.

The identified inventory threshold always applies to intentionally used substances intended to be constituents of a material or product and intended reaction products. If residuals and impurities are considered [See 2.2.1.5], the inventory threshold also applies to substances that, while not intended constituents of a material or product, are known – or have the potential – to be present at or above the selected threshold. Refer to Glossary [See 5] for definitions.

In a Basic Inventory, a single “Per Product” level threshold must be indicated, which denotes that all substances present in the final product at or above the indicated threshold have been disclosed.

In a Nested Materials Inventory, there are two reporting options: the manufacturer may indicate a threshold for disclosure as either “Per Material” or “Per Product”:

- Option 1 – “Per Material”: a threshold must be indicated for each material listed. If inventory data for the substances within a single material are obtained at multiple

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[11] OSHA MSDS and GHS SDS are targeted toward occupational safety during manufacturing. As a result MSDS/SDS information does not always represent the actual composition of the final material (e.g., polyurethane foam). When relying on MSDS/SDS information for a material, the Material Notes [2.2.7] are used to explain instances where the contents listed in the HPD represent solely inputs to a reaction product rather than reaction products and residuals. Refer to Special Conditions [See 3.5] for further guidance

[12] https://www.osha.gov/dsg/hazcom/ghs.html

[13] Once the GHS SDS officially supersedes the MSDS as OSHA’s Hazard Communication Standard, manufacturers and their suppliers who have reported to the MSDS inventory threshold are strongly encouraged to update the HPD Content Inventory accordingly. Refer to the US Department of Labor’s website for the timeline of Effective Dates. https://www.osha.gov/dsg/hazcom/effectivedates.html Please note that reporting thresholds are different under the new GHS SDS.

threshold levels, the least stringent threshold must be indicated, with further explanation provided in the Other Material Notes [See 2.2.1.7].

- Option 2 – "Per Product": a single product level "Per Product" threshold is indicated. This "Per Product" threshold defines the level at which any substance that is present at or above this level in one or more of the materials, must be listed under each such material. If desired, a threshold for each listed material can also be reported based on:
  - A "Per Material" threshold may be used for selected individual materials to provide additional information where it is available and the manufacturer chooses to disclose it – in this case, what is reported should be the actual threshold used to identify substances for that material (i.e. 100 ppm, 1000 ppm, per GHS SDS, or per OSHA MSDS). This option can only be used if *all* substances above that threshold in the material are listed, not just the subset of substances that are above the "Per Product" threshold.
  - For any material where only those substances that are present at or above the Per Product threshold are reported (i.e., if any identified substances are below the Per Product threshold and therefore are not listed), "Other" must be indicated as the threshold for the material. An explanation is required in Substance Notes.
  - It is possible that a material can be listed with no substances nested under it. This could occur if all substances in the material are below the Per Product level threshold indicated. "Other" must be indicated as the threshold for any such material. An explanation is required in Substance Notes.

In all of the cases above, only one threshold may be indicated per material or per product. If inventory data for the substances within a single material or within the product are obtained at multiple threshold levels, the least stringent threshold must be indicated, with further explanation in the Other Material or Product Notes [See 2.2.1.7].

2.2.1.5 Residuals/Impurities

Indication of whether residuals and impurities are considered for the material or product and included in the inventory. Options are either "Considered" or "Not Considered."

When Residuals/Impurities are "Considered," the manufacturer has taken steps - such as those outlined in Emerging Best Practices as they evolve - to understand what residuals and impurities may be present in the material or product and to disclose that information in the HPD. The term "Considered" is used, rather than "Included," to address currently unavoidable variability in methodology and rigor due to industry sector differences in knowledge about residuals and impurities in materials used. Guidance related to considering, identifying and quantifying residuals and impurities will be documented on the HPD Collaborative website as Emerging Best Practices as this field evolves.

Whether "Considered" or "Not Considered" is indicated, an explanation must be provided. Use the Residuals and Impurities Notes for related information if some materials are "Considered" and others are "Not Considered" or if different methodologies are used for different materials in a Nested Materials Inventory.

- If "Not Considered" is indicated, an explanation must be provided in the Residuals and Impurities Notes [See 2.2.1.6] as to why the manufacturer has not considered residuals and impurities.

- If “Considered” is indicated,
  - An explanation must be provided in the Residuals and Impurities Notes [See 2.2.1.6] describing the methodology employed to identify residuals and impurities.
  - Any identified residual or impurity that is known or has the potential to be present in the material or product above the Content Inventory Threshold must be listed in HPD Format Section 2: Content in Descending Order of Quantity as an individual line item entry. If the manufacturer can demonstrate (via testing or estimation, based on the version of Emerging Best Practices on the HPD website when the HPD is published) that an identified residual is not present at or above the indicated threshold, the residual does not need to be listed as a line item in the inventory but an explanation of the rationale must be provided in the Residuals and Impurities Notes [See 2.2.1.6]. While it is acceptable to indicate that residuals and impurities have been “Considered” when no identified residuals are listed as line items, a thorough methodological explanation in the Residuals and Impurities Notes [See 2.2.1.6] must clearly justify this determination.

    Note: When content inventory is documented as per GHS SDS, it is possible that residuals and impurities are listed without distinction or may not be included. If additional reactions occur during subsequent manufacturing processes, an SDS may not capture all contents in the final material, but the information may still be useful to help indicate potential residuals.

2.2.1.6 Residuals and Impurities Notes

Explanation of whether and how residuals and impurities were or were not considered.

Whether “Considered” or “Not Considered” is indicated, an explanation must be provided if some materials are “Considered” and others are “Not Considered” or if different methodologies are used for different materials in a Nested Materials Inventory.

- An explanation If “Not Considered” is indicated.
- If “Considered” is indicated,
  - An explanation for each material describing the methodology employed to identify residuals and impurities.
  - If the manufacturer can demonstrate that an identified residual is not present at or above the indicated threshold, the residual does not need to be listed as a line item in the inventory but an explanation of the rationale must be provided in the Residuals and Impurities Notes. While it is acceptable to indicate that residuals and impurities have been “Considered” when no identified residuals are listed as line items, a thorough methodological explanation in the Other Material or Product Notes [See 2.2.1.7] must clearly justify this determination.

See Residuals and Impurities (2.2.1.5] for specific requirements.

2.2.1.7 Other Material or Product Notes

Explanation of material or product characteristics.

The required entries are:

- explanation or rationale for nondisclosure if Material Name [See 2.2.1.1] is “Undisclosed” in a Nested Materials Inventory,
- explanation for ranges, alternates and undisclosed material percentage as required in 2.2.1.2 Percent (%) in a Nested Materials Inventory,

- explanation when "Other" is indicated for Inventory Threshold [See 2.2.1.4], unless provided in the Inventory and Screening Notes,
- explanation when inventory data for substances within a single material are obtained at multiple threshold levels in a Nested Materials Inventory or within a product in a Basic Inventory.
- explanations for residuals and impurities as required in 2.2.1.5 Residuals/Impurities,
- explanation of variations among different products listed in a single HPD [See 3.1], if not addressed in Substance Notes [See 2.2.2.9] or General Notes [See 2.5].

Optional entries include:

- identification of primary materials that may be replaced by alternate materials or substances [See 3.2],
- if the product varies in composition because there are multiple alternate suppliers for a single material or substance [See 3.3]. Ranges for substances' percent weight may be provided with an explanation of how the supply chain has influenced disclosure methods,
- references to reports or other published literature about exposure, risk or other qualities specific to the material in the product that may be relevant to understanding the context for its use.
- Material Health Assessment Notes as methods and tools are developed and approved.

2.2.2 Substance

2.2.2.0 General Information on Substances

Each substance in a material (Nested Materials Inventory) or product (Basic Inventory) that exceeds the established threshold is included with its own line item entry. Substances should be listed in descending order of quantity within the material or product.

2.2.2.1 Substance Name

Title of the substance. Options include the substance's specific name, generic name, "Undisclosed" or "Unknown."

- If the manufacturer chooses to identify the substance to a lesser degree of specificity, a generic name or chemical class may be indicated in its place.
- If the manufacturer chooses not to disclose the name of the substance in any fashion, "Undisclosed" must be indicated, with explanation of the rationale for nondisclosure in the Substance Notes [See 2.2.2.9], and the product cannot be indicated as "Identified" [See 2.2.2.2] unless specifically allowed by the instructions in Variations, Special Conditions for Materials and Substances [See 3.5].
- If the manufacturer does not know the substance name, "Unknown" must be indicated. This is possible when the supplier has passed on content characteristics to the product manufacturer for inclusion in the HPD, but has redacted certain details. Efforts undertaken to identify the substance must be explained in the Substance Notes [See 2.2.2.9], and the product cannot be indicated as "Identified" [See 2.2.2.2] unless specifically allowed by the instructions in Variations, Special Conditions for Materials and Substances [See 3.5].

2.2.2.2 Identifier

Chemical Abstract Service Registration Number (CAS RN or CAS number) or other substance identification[14]*.* Refer to Glossary [See 5] for definition. Refer to Variations, Special Conditions for Materials and Substances [See 3.5] for further guidance on identifiers other than CAS numbers.

- "Undisclosed" indicates that the manufacturer knows the identifier and chooses not to disclose. The rationale for non-disclosure must be explained in the Substance Notes [See 2.2.2.9] and the product cannot be indicated as "Identified" [See 2.2.2.2] unless specifically allowed by the instructions in Variations, Special Conditions for Materials and Substances [See 3.5].
- "Unknown" indicates that the manufacturer does not know the chemical identity. An explanation of why it is unknown and manufacturer efforts to identify it must be included in the Substance Notes [See 2.2.2.9], and the product cannot be indicated as "Identified" [See 2.2.2.2] unless specifically allowed by the instructions in Variations, Special Conditions for Materials and Substances [See 3.5].
- If more than one identifier has been assigned to this substance, other relevant identifiers may be listed in the Substance Notes [See 2.2.2.9].
- "Not registered" indicates no CAS number or other identifier has been registered for this substance.

2.2.2.3 Percent (%)

Substance's percentage in the material (Nested Materials Inventory) or product (Basic Inventory) by weight. For the following instances, the same guidance applies as for "Percent" (%) [See 2.2.1.2] in the Material or Product section above, with explanation entered in the Substance Notes [See 2.2.2.9] instead of the Other Material or Product Notes [See 2.2.1.7]:

- ranges, variable amounts over time;
- ranges, similar products;
- alternate substances;
- undisclosed.

If "Undisclosed" is selected for any substance in the product, the product may not be indicated as "Characterized" [See 2.1.2.3].

2.2.2.4 GreenScreen® (GS)

Benchmark or List Translator scores. Options from highest to lowest concern are: BM-1, LT-1, LT-P1, LT-UNK, BM-U, BM-2, BM-3, BM-4. Refer to References [See 2.6.2.2] for definition and an explanation of each score.

Substances that are present on one or more screening or authoritative hazard list are assigned a List Translator score ("LT-1" or "LT-P1"or "LT-UNK"). Substances not present on any list are assigned a "NoGS" score by the HPD. A full GreenScreen assessment is not required to generate a List Translator score. If the substance has received a full GreenScreen assessment published in the Pharos Chemical and Material Library, the Benchmark score is indicated instead of the List Translator score, with explanation in the Substance Notes [See 2.2.2.9], of the source of the full GreenScreen assessment. Any

[14] For example, "MATNUM" and "BIONUM" reference are identifiers assigned to a substance in the absence of another official identifier (e.g., CAS RN). The assigned identifier is cross-referenced with the Healthy Building Network's Pharos Chemical and Material Library and available online.

certified full GreenScreen assessment that is completed by a Licensed GreenScreen Profiler and licensed for public use may be submitted for inclusion in the Pharos Chemical and Material Library at no cost. Refer to Variations, Special Conditions for Materials and Substances [See 3.5] for further guidance about Form Specific Hazards.

A GreenScreen assessment certified by a Licensed GreenScreen Profiler for which the manufacturer holds license to make public claims, but which is not published in the Pharos Chemical and Material Library, may be listed in the Substance Notes [2.2.2.9]. Include the GreenScreen Benchmark, the name of the Licensed GreenScreen Profiler certifying the assessment, and the date of the assessment. For example: “This substance was assigned GreenScreen Benchmark 3 by Licensed GreenScreen Profiler xxxx on March 3, 2015.”

2.2.2.5 RC: Recycled content

Indication of whether the substance was diverted from a waste stream for use in the material (Nested Materials Inventory) or product (Basic Inventory).

- For substances with recycled content, “PostC” indicates postconsumer recycled content, and “PreC” indicates preconsumer (post-industrial) recycled content. Refer to Glossary [See 5] for definitions.
- “Both” indicates the substance includes both postconsumer and preconsumer (post-industrial) recycled content.
- “None” indicates the substance does not include pre- or postconsumer recycled content.
- “Unk” indicates the inclusion of recycled content is unknown.

For each substance with recycled content, the Substance Notes [See 2.2.2.9] must indicate the type of product(s) from which the recycled content is obtained. (Example: for postconsumer recycled high-density polyethylene, the Substance Notes would document sourcing as from recycled milk bottles, grocery bags, or other products.) Refer to Variations, Special Conditions for Materials and Substances [See 3.5] for further guidance about substances that include recycled content of mixed composition.

2.2.2.6 Nano

Indication of whether the substance is a nanomaterial. Refer to Glossary [See 5] for definition.

- “YES” indicates the substance is a nanomaterial.
- “NO” indicates it is not a nanomaterial.
- “UNK” indicates that it is unknown whether the substance is a nanomaterial or not.

2.2.2.7 Role

Brief phrase that captures the substance’s purpose or function for inclusion in the material (Nested Materials Inventory) or product (Basic Inventory). Examples include: "binder," "anti-microbial," "flame retardant," "wear layer," "catalyst," "preservative," etc. Further explanation of a particular substance can be included in the Substance Notes [See 2.2.2.9]. The role for each substance must be identified in order for the product to be indicated as “Characterized” [See 2.1.2.3].

2.2.2.8 Hazards, Agency(ies) with Warnings

Hazard types, agencies, and warnings associated with a substance as identified by the Health Product Declaration Priority Hazard Lists. For each substance, the HPD must list

applicable warnings, the hazard types they represent and the agencies that issued the warnings. This requires screening the substance against the Priority Hazard Lists (see Appendix D) to identify if the substance is listed with an HPD Priority List Warning.

If the substance is listed for a required Priority List Warning, indicate the associated Hazard Type under *Hazards,* and the Agency+List Title and Hazard Warning separated by a colon (":") or by columns under *Agencies with Warnings*. There must be a separate line item entry for each Hazard Type for which a substance is listed. If there is more than one Warning related to a single Hazard Type, they can be listed together by adding "also in" followed by each of the relevant Agency+List Titles.

Not all Warnings identified by the HPD Priority List Sources are required. Appendix C lists the criteria that the HPDC used to select the required Warnings. The specific Warnings required to be listed in HPDs are identified in a supplemental document entitled "HPD Priority List Warnings" on the HPDC website [http://www.hpd-collaborative.org/wp-content/uploads/2017/05/Appendix-E-2.1-FINAL_Secure.pdf].

- Hazard type, agency, and warning information may be manually compiled or obtained through an automated compilation tool. Use of a comprehensive automated compilation tool is recommended to ensure these associations are made accurately and efficiently. The compilation method used to identify hazard type, agency, and warnings must include all relevant information from each of the HPD Priority Hazard Lists. If it does not, the manufacturer must insert information from missing lists. It is the manufacturer's responsibility to confirm that the compilation method selected is current and comprehensive and that information in the tool is updated at least annually.
- If the substance is not present by name or CAS number on any of the Priority Hazard Lists, then a search by synonyms (name or additional CAS numbers) must be conducted. If still not found, "None found" is indicated for Hazards and "No warnings found on HPD Priority Hazard Lists" is indicated for Agency(ies) with Warnings.
- If a single List has shown that there are multiple hazard types for a substance, but has not specified which particular hazard types apply, "Multiple" is indicated for the Hazards.
- Hazards, agencies, and warnings, if any, must be provided for all known and itemized substances, regardless of whether the substance's name and CAS number have been disclosed. Confidential Business Information status is not an acceptable reason to avoid disclosure of hazards, agencies, and warnings.
- If the substance identity is proprietary to a supplier and neither the identity nor the hazard, agency, and warning information have been disclosed to the manufacturer, "Unknown" is indicated for Hazard, and "Not disclosed by supplier" is indicated for Agency(ies) with Warnings. An explanation must be provided in the Substance Notes [See 2.2.2.9] regarding efforts to obtain this information from the supplier.
- Refer to Variations, Special Conditions for Materials and Substances [See 3.5] for further guidance about how hazard types, agencies, and warnings are documented in certain specific instances.

2.2.2.9 Substance Notes

Explanation of the substance's characteristics.

Required entries are:

- explanation if Substance Name [See 2.2.2.1] and Identifier [See 2.2.2.2] are "Undisclosed" or "Unknown." The manufacturer must explain the rationale for

nondisclosure for “Undisclosed” substances and efforts undertaken to identify “Unknown” substances. The manufacturer is encouraged to indicate if there is a time horizon for the non-disclosure (e.g., a pending patent application filing or other limited time intellectual protection or market advantage issue), and the existence of and time limits associated with a non-disclosure agreement (NDA) in place with the supplier;

- additional CAS numbers, if the substance can be identified by multiple CAS numbers;
- explanation if GreenScreen assessment is referenced but is not published in Pharos Chemical and Material Library [see 2.2.2.4];
- explanation for ranges, alternates and undisclosed substance percentage as required in 2.2.2.3 Percent (%);
- explanation of source if GreenScreen response is a Benchmark score from a full GreenScreen assessment.) [See 2.2.2.4];
- description of recycled content, if applicable [See 2.2.2.5];
- "Exempt VOC" if the substance is an EPA exempt VOC [See 2.1.4.3];
- explanation of variations among different products listed in a single HPD [See 3.1], if not addressed in Other Material or Product Notes [See 2.2.1.7] or General Notes [See 2.5].

Optional entries include:

- other relevant identifiers, if more than one identifier has been assigned to this substance [See 2.2.2.2];
- further explanation of role of a substance [See 2.2.2.7];
- identification of primary substances that may be replaced by alternate substances [See 3.2];
- references to reports or other published literature about exposure or risk or other qualities specific to the substance that may be relevant to understanding the context for its use;
- positive listings, which are encouraged, such as if a substance is present on the EPA’s Safer Choice, Safer Chemical Ingredients List[15].

2.3 HPD Open Standard Format Section 3: Certifications and Compliance

2.3.0 HPD Open Standard Format Section 3 Overview

This section lists independent certifications to verify key content and health-related product characteristics. This includes applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided at the manufacturer’s discretion. Multi-attribute certification programs may be listed here (e.g., Cradle-to-Cradle Certified™, SMaRT, level®).

In addition to listing third party certifications, this space may also be used to list a self-declared claim of adherence to an independent standard.

[15] http://www2.epa.gov/saferchoice/safer-ingredients

2.3.1 General Requirements

Certification or testing is not required for completion of an HPD. However, an entry is required for VOC Emissions for all products [See 2.3.3.1], and an entry is required for VOC Content for wet-applied products [See 2.3.3.2]. VOC Emissions is always listed first. VOC content, when applicable, is listed second. Refer to Name of Certification or Compliance [See 2.3.3].

A multi-attribute certification program may only be used to document compliance for VOC Emissions, VOC Content, or other specific criteria if either the program requires a certain minimum level of performance (e.g., ANSI/NSF 140-2007e – Gold for VOC Emissions), or there is a published scorecard demonstrating that the product met a specific level of performance (e.g., the MTS SMaRT Building Product Standard if the Minimize Indoor Air Criterion has been met for VOC emissions).

Other product certifications and standards not directly related to content and health should not be included here. Listing of certifications and standards relating to other product attributes may be included in HPD Format Section 5: General Notes [See 2.5].

The HPD does not provide a structure for claims about a product's compliance with construction project level rating system requirements (e.g., LEED®, BREEAM®, Living Building Challenge™, Sustainable Sites Initiative™, WELL Building Standard®). Claims about a product's compliance with such rating system requirements may be listed in HPD Format Section 5: General Notes [See 2.5], and must be explicit about the specific requirement, the applicable program version, and any special conditions of compliance.

2.3.2 Type of Certification

Category of compliance, such as "VOC Emissions," "VOC Content," "Multi-attribute."

2.3.3 Name of Certification or Compliance

Title of the standard or certification program.

2.3.3.1 VOC Emissions

- If the product has been certified under a program that requires California Department of Public Health (CDPH) Standard Method[16] compliant VOC emissions testing (e.g., Indoor Advantage Gold™, FloorScore®, or GREENGUARD Gold), indicate the building type scenario applied unless it was certified against both the office and schools scenario (e.g., "SCS Indoor Advantage™ Gold - Residential") and any other special qualifications associated with the certification or standard compliance, such as "formaldehyde free."
- If the product has not been certified under a program that uses the CDPH Standard Method but has been tested by an independent laboratory against the CDPH Standard Method and passed, that test must be indicated along with the building type scenario applied (e.g., "CDPH Standard Method V1.1 – residential scenario") and any other special qualifications associated with the certification or standard compliance, such as "formaldehyde free." Note that at this time the CDPH Standard Method lists emissions scenarios only for insulation and interior products but also includes provisions for adapting the loading scenarios to certain other product categories. See Appendix F for

[16] For more on the CDPH Standard Method, a full list of the interior product categories for which there are appropriate emissions scenarios, and a list maintained by USGBC of programs that are known to adhere to the CDPH Standard Method or AgBB, refer to Appendix F.

details. Add "Adapted loading" to the Certification and Compliance Notes [See 2.3.10], if the product has been tested using applicable CDPH Standard Method provisions for adapting scenarios to other product categories.

- If the product has been certified or tested against the international emissions standard AgBB [see Appendix F], that certification or standard must be indicated along with any special qualifications associated with the certification or standard compliance.
- If the product has not been certified or tested against the CDPH Standard Method or AgBB:
  - If the current version of the CDPH Standard Method does not provide an appropriate emissions scenario for the product type, and the product type cannot be tested using applicable CDPH Standard Method provisions for adapting the scenarios, “N/A” must be indicated. Note that there is no emissions scenario for exterior products.
  - If the current version of the CDPH Standard Method provides an appropriate emissions scenario for the product type, or the product type can be tested using applicable CDPH Standard Method provisions for adapting the scenarios, “CDPH Standard Method – Not tested” must be indicated.
  - If the manufacturer is in the process of having the product tested, an explanation may be provided in the Certification and Compliance Notes [See 2.3.10] of when testing or certification results are anticipated.
  - If the product meets LEED® criteria for an “inherently non-emitting source” “Inherently non-emitting source per LEED®” is indicated.[17]
  - In addition to the first listing referring to CDPH Standard Method or AgBB as outlined above, if a product has been certified or tested against an emissions test method that is not based on CDPH Standard Method or AgBB, that certification or test method may be listed second. For certifications, list the test method in the Certification and Compliance Notes [See 2.3.10].

2.3.3.2 VOC Content

An entry is required for VOC Content for any product, interior or exterior, that is wet/liquid-applied on site (e.g., paints, adhesives and other coatings). For product categories that are not wet/liquid-applied, VOC Content is not applicable, and no entry is expected.

- If the product has received a certification that addresses VOC content levels, or a third party laboratory certificate for VOC content testing, the name of that certification or test method is indicated.
- If the product is compliant with one or more of the regulatory standards applicable to the product category that limit VOC content, such as SCAQMD Rule 1168, SCAQMD Rule 1113 or the CARB 2007 Suggested Control Measure for Architectural Coatings, the name of each applicable standard with which the product complies is indicated.
- Otherwise, reference the standard that was used to determine Actual [2.1.15] and Regulatory [2.1.16] VOC content values.

[17] Refer to the LEED Credit Library for full credit requirements: http://www.usgbc.org/node/2614095?return=/credits/new-construction/v4/indoor-environmental-quality

2.3.4 Certifying Party

Type of party that is attesting to the claim. Options include:

- Self-declared: claim made by the manufacturer (First Party). This also includes tests by an outside laboratory if a third party is not certifying the sample selection and chain of custody.
- Second Party: claim certified by a trade association or other interested party.
- Third Party: claim certified by an independent third party or audited/inspected by a government agency. A test result from an independent outside laboratory does not qualify the claim as third party certified. For a certification program to qualify as Third Party, a third party certifier must manage the chain of custody for sample selection and approve adherence to the standard.

2.3.5 Issue Date

Date of the certification or test. Provide the issuing date for the Second or Third Party certification or the lab test report date for the First Party declaration.

2.3.6 Expiry Date

Date of expiration for the certification or test. Left blank when there is no expiration date, as in for a self-declared claim.

2.3.7 Certifier or Lab

Name of the certifying body or laboratory. For a second or third party certification, the name of the certifier must be provided. For a self-declared claim using an independent laboratory, the name of the laboratory that did the testing must be provided. “None” indicates no outside testing was done to validate the manufacturer claim.

2.3.8 Applicable Facilities

Location(s) of specific manufacturing facilities for which the standard or certification applies, including the city, state, and country. “All” indicates that all of the manufacturer’s facilities are covered by this standard or certification.

2.3.9 Certificate URL

Functional website link to the documentation of the certification, if any. For all types of claims, the certificate must list the actual product names for which the HPD is being created. If the certificate or testing report is for a different product or manufacturing site than stated on the certificate, the claim must be documented as self-declared.

2.3.1.0 Certification and Compliance Notes

Explanation of the certification or compliance.

Required entries are:

- limitations of the certification (e.g., It applies only to part of the product.),
- for VOC Emissions, an explanation of the building-type scenario under which the product was qualified [See 2.3.3.1].

Optional entries include:

- for VOC Emissions, information about pending testing or certification results [See 2.3.3.1].

2.4 HPD Open Standard Format Section 4: Accessories

2.4.0 HPD Open Standard Format Section 4 Overview

The manufacturer must list additional products required for installation or by warranty (e.g. adhesives, fasteners, field coatings, diluents) and may also list products recommended but not required by the manufacturer for installation, maintenance, cleaning, or operations. A separate entry is required for each accessory product or material that is listed.

2.4.1 Accessory Product or Material Name

Name of the recommended or required product. If no accessories are required, “no accessories are required for this product” must be entered.

2.4.2 URL for Companion Health Product Declaration

Functional website link to an HPD for the accessory product. "No HPD available" must be entered if the product does not have a published HPD.

2.4.3 Condition When Recommended or Required and/or Other Notes

Explanation of conditions for use. This includes, for example, “for all installations,” “for exterior installations,” “during routine maintenance.” For listed wet applied products, such as adhesives or diluents, the typical VOC content must be indicated if there is no companion URL. Information about other relevant characteristics may also be included.

2.5 HPD Open Standard Format Section 5: General Notes

2.5.0 HPD Open Standard Format Section 5 Overview

This section contains additional explanations that are not covered by the section-specific notes.

2.5.1 Required Entries

Required entries are:

- explanation of how health hazard and warnings screening was done if an automated tool was not used to create the HPD [See 2.2.2.8],
- explanation of variations among different products listed in a single HPD [See 3.1], if not addressed in Material or Product Notes [See 2.2.1.7] or Substance Notes [See 2.2.2.9],
- definition of the scope of the HPD when products are composed of combinations of parts [See 3.4].

2.5.2 Optional Entries

Optional entries include:

- secondary product brand names [See 2.1.1.1],
- secondary classifications [See 2.1.1.3],
- extended product descriptions [See 2.1.1.4],
- extended descriptions of inventory and screening notes [See 2.1.3.5],
- product compliance with aspects of construction project level rating systems {See 2.3.1],
- explanations about variations in contents or assemblies [See 3.2 and 3.3],
- illustrative diagrams, such as an annotated axonometric drawing, may be inserted,
- references to reports or other published literature about exposure or risk specific to the product, or other issues that may be relevant to help the specifier or end user further interpret information documented in other HPD Format sections.

2.6 HPD Open Standard Format Section 6: References

2.6.0 HPD Open Standard Format Section 6 Overview

This section contains manufacturer contact information. It also includes a key to abbreviations and select glossary terms.

2.6.1 Manufacturer information

Responses for each item must be provided.

2.6.1.1 Manufacturer
Manufacturer/Company Name.

2.6.1.2 Address
Manufacturer's complete primary street address including Address, City, State/Province, Postal Code, Country.

2.6.1.3 Contact Name
First and last name of the manufacturer's staff person responsible for the HPD. This person is responsible for the validity of the HPD and attests that it is accurate and complete to the best of his or her knowledge.

2.6.1.4 Title
Position of the manufacturer's staff person responsible for the HPD.

2.6.1.5 Phone
Telephone number for the manufacturer's staff person responsible for the HPD.

2.6.1.6 Email
Electronic mail address for the manufacturer's staff person responsible for the HPD.

2.6.1.7 Website

Link to the manufacturer's website that includes information specific to the product. The complete URL must be included.

2.6.2 Abbreviations and acronyms

This section provides references for several data entry requirements.

2.6.2.1 Hazard Types

General term referring to hazard endpoints, mechanisms, and environmental fate characteristics of concern. Mammalian and ecological toxicity, fate, or physicochemical properties for which substances are evaluated. The following are hazard types and related reporting references included in an HPD:

AQU: Aquatic toxicity	GLO: Global warming	PBT: Persistent Bioaccumulative Toxic
CAN: Cancer	LAN: Land toxicity	PHY: Physical hazard (reactive)
DEV: Developmental toxicity	MAM: Mammalian/systemic/organ toxicity	REP: Reproductive toxicity
END: Endocrine activity	MUL: Multiple hazards	RES: Respiratory sensitization
EYE: Eye irritation/corrosivity	NEU: Neurotoxicity	SKI: Skin sensitization/irritation/corrosivity
GEN: Gene mutation	OZO: Ozone depletion	NF: Not found on Priority Hazard Lists

2.6.2.2 GreenScreen®

Short for "GreenScreen for Safer Chemicals," a method for comparative chemical hazard assessment. It is used to assess the inherent hazards of chemicals and their potential effect on human health and the environment. The foundation of the GreenScreen method is the Principles of Green Chemistry[18] and the work of the U.S. Environmental Protection Agency's (EPA's) Design for the Environment (DfE) and GHS hazard thresholds.

- **List Translator score (LT-)**: A designation based on initial stand-alone screening of a substance against GreenScreen authoritative hazard lists. The List Translator procedure can predict that a full assessment of the chemical will possibly or likely result in a Benchmark 1 designation (the highest concern), but it will not predict Benchmarks 2, 3 or 4 (lower concern). The GreenScreen List Translator procedure is a free, public protocol. The protocol and a variety of services that provide automated lookup are listed on the GreenScreen website at http://www.greenscreenchemicals.org/method/greenscreen-list-translator.
- **Benchmark score (BM-)**: A designation based on a full GreenScreen assessment, which includes a comprehensive review of all available information including 1) measured data from standardized tests and scientific literature, 2) estimated data from suitable analogs and models, and 3) hazard lists. The GreenScreen for Safer Chemicals Chemical Hazard Assessment Procedure is a free, public protocol. However, licensed GreenScreen profiler must complete an assessment used for a public claim. See the GreenScreen website for lists of profilers and published assessments.

[18] http://www.epa.gov/sciencematters/june2011/principles.htm

The order of designations from highest to lowest concern is:

- BM-1: Benchmark 1 (avoid - chemical of high concern)
- LT-1: List Translator Likely Benchmark 1
- LT-P1: List Translator Possible Benchmark 1
- LT-UNK: List Translator Benchmark Unknown (the chemical is present on at least one authoritative hazard list from the GreenScreen List Translator but the reference(s) is not sufficient to predict a “likely” or “possible” Benchmark 1 score)
- BM-U: Benchmark Unspecified (insufficient data to benchmark)
- BM-2: Benchmark 2 (use but search for safer substitutes)
- BM-3: Benchmark 3 (use but still opportunity for improvement)
- BM-4: Benchmark 4 (prefer-safer chemical)

In addition, a designation of “NoGS” may be assigned by the HPD to indicate that the substance is not identified on any GreenScreen List Translator Lists; this designation ranks between LT-UNK and BM-U in terms of concern.

For more information, see (http://www.greenscreenchemicals.org)

3. Variations

3.0 Introduction

This chapter addresses potential variations that might be appropriate in specific situations and may be used to create a compliant HPD. These include:

- listing multiple products in a single HPD,
- alternate materials or substances,
- variable composition due to multiple suppliers,
- products composed of combinations of parts,
- special conditions for materials or substances.

3.1 Listing Multiple Products in a Single HPD

A range, series, or category of products may be grouped together in a single HPD if all of the following apply:

- the products are functionally similar,
- all of the information provided in HPD Format Section 3: Certifications and Compliance [See 2.3] applies to all products included,
- each of the products has identical content OR the content differences between the products account for 10% or less of the total mass of each product.

All contents present in any of the products at or above the selected Threshold(s) must be included in the Content Inventory. All variances between the grouped products must be explained in the Other Material or Product Notes [See 2.2.1.7] and/ or Substance Notes [See 2.2.2.9], if possible, or in HPD Format Section 5: General Notes [See 2.5].

3.2 Alternate Materials or Substances

When different materials or substances can be used to create a product, substitute contents may be included in the Content Inventory as alternate(s). “Alternate” is indicated for material or substance Percent (%). Refer to HPD Format Section-by-Section Guidance [See 2.2.1.2 and 2.2.2.3] for further information about Percent (%). Alternate contents and their characterizations are included in HPD Format Section 2: Content in Descending Order of Quantity [See 2.2], but are not reflected in HPD Format Section 1: Summary [See 2.1.3].

Alternates must be listed at the end of the Content Inventory in descending order of quantity, determined by the percent weight of the primary content for which it is a substitute. No percent weight will be indicated for the alternate content, and “Alternate” is indicated for Percent (%). If the alternate is a material, the primary material that it may replace must be indicated in the Other Material Notes [See 2.2.1.7]. If the alternate is a substance, the primary substance that it may replace must be indicated in the Substance Notes [See 2.2.2.9].

3.3 Variable Composition Due to Multiple Suppliers

If the product varies in composition because there are multiple alternate suppliers for a single material or substance, this variability in product contents must be captured in the inventory to the extent possible.

At a minimum, disclosure should reflect composition as sourced from the primary supplier, and a general explanation should be provided in the Other Material or Product Notes [See 2.2.1.7] disclosing that supplier variability may affect composition. Known composition from alternate suppliers should be captured. More detailed disclosure may be provided by denoting ranges for substances' percent weight, using zero to maximum range to indicate if an ingredient is not always present, with an explanation in the Other Material or Product Notes [See 2.2.1.7] of how the supply chain has influenced disclosure methods.

3.4 Products Composed of Combinations of Parts

When a product is a combination of discrete parts assembled to form a unitary whole, some or all of the parts may be interchangeable. Examples include items like carpet systems (where a style may be produced with different optional carpet face fibers, backings, and adhesive or other installation systems), and acoustical wall panels (where different facings may be applied to a core). Refer to Glossary [See 5] for definition of "part." In such cases, the product manufacturer may define the scope of the HPD to ensure that it:

- clearly communicates the boundaries for reporting,
- includes all substances at/above the selected Threshold(s) [See 2.2.1.4] for at least one complete product[19],
- clearly indicates in the Product Description [See 2.1.1.4] the combination(s) that are included/excluded, with further explanation in HPD Format Section 5: General Notes [See 2.5], as necessary.

The manufacturer may opt to publish a single HPD that includes the combination(s) representing the majority of sales for a product, or opt to publish a series of HPDs that, in sum, account for most or all possible combinations.

Within a single HPD, contents are organized for the secondary combinations based on the guidelines in "Alternate Materials or Substances" [See 3.2].

If establishing a series of HPDs, it is recommended to first group product options for which the variability in contents is limited, then consider if the hazard profile is distinctive. For example, fabrics using one set of dyes (perhaps with a less hazardous profile) may be inventoried in one HPD, while those with another set of dyes may be inventoried in another HPD. Note: Cross-referencing between published HPDs supports understanding of scope and available information about other possible combinations.

The manufacturer may instead opt to publish a single HPD that is a "worst case sample," based on the hazard profile of contents. Because the HPD is a disclosure tool and not an assessment or certification program, this approach is not necessarily optimal. It may still be worthwhile to include

[19] If a Product Category Rule (PCR) exists for use in an Environmental Product Declaration (EPD), best practice is to assess if the product definition outlined in the PCR can also apply to the HPD. Note: this recommendation only pertains to defining product boundaries; the product's content inventory still must be created following the HPD guidelines herein – not per PCR/EPD guidelines. Unlike for other impacts captured by the EPD, small percentages can be very significant for health considerations.

“alternates” [See 3.2] or otherwise highlight differences in hazard profiles between product options that may be of significance to users of the published HPDs.

The approach taken must be clearly explained on the HPD.

3.5 Special Conditions for Materials and Substances

The HPD Collaborative recognizes that there are limitations to disclosure in today’s emerging “era of transparency.” There is still much to be learned, and for some types of materials, the ability to identify and characterize substances and/or CAS numbers may be challenging, while in other cases there may be specific issues relating to the hazard screening by CAS number. Therefore, the HPD Collaborative is creating specific guidelines to address known issues (“Special Conditions”). Because the collective understanding about these materials and substances is constantly evolving, guidance related to Special Conditions is documented on the HPD Collaborative’s website as Emerging Best Practices as the guidance is developed. There may be changes to this guidance, and additional material and substance types may be added to this online area between releases of future versions of the HPD Open Standard. Therefore, it is important to review the online supplemental information when creating an HPD, and, if any Special Conditions are applicable, reference the Special Conditions version number in the Inventory and Screening Notes [See 2.1.3.6].

Special Conditions will be outlined for items such as the following (from the first version, Version SC-1.0):

- biological material,
- ceramics,
- defined substance without identifier,
- electronics,
- float glass,
- form specific hazards,
- geological material,
- material with CAS RN but no specific molecular structure,
- metal alloy material,
- mixed hardware,
- reaction products,
- recycled content – mixture.

4. Checklist for a Compliant HPD

To be considered compliant with the HPD Open Standard, all entries provided by the preparer must be completed on the HPD Format in accordance with the HPD Instructions. The following checklist summarizes these requirements for HPD 2.1.

HPD FORMAT SECTION 1: SUMMARY

- Product Name and Manufacturer Name provided.
- Classification: six-digit CSI MasterFormat designation or other identifier, or "N/A."
- Product Description: product function provided.
- Created via: tool used to create HPD identified.
- Inventory Reporting Method: Nested Materials or Basic Inventory method indicated
- Threshold: per product or per material indicated; at least one threshold indicated; multiple levels may be indicated in per material threshold.
- Residuals and Impurities Considered: indicates whether residuals and impurities were considered; in Nested Materials Inventory method, “Y” equals total number of materials; “X” equals number of materials for which residuals and impurities are considered in Section 2.
- Characterized, Screened, and Identified: “Yes” or “No” selected; responses align with level of disclosure provided in Section 2.
- Content in descending order of quantity; Number of GreenScreen BM-4/BM-3 contents; Contents highest concern GreenScreen Benchmark or List Translator Score; and Nanomaterial: responses align with information provided in Section 2.
- Inventory and Screening Notes: required entries (per detailed requirements) provided.
- VOC Content: responses provided for each data element for liquid/wet applied products; or "VOC content data is not applicable for this product category" is indicated.
- Certifications and Compliance: responses align with information provided in Section 3.
- Third Party Verified: yes or no is checked; if yes, name of verifier is provided. Third Party Preparer is named or “Self Prepared” is entered.
- Screening Date, Published Date, and Expiry Date are indicated. Expiry Date is no more than three years after Screening Date.
- Product and Manufacturer Name, Product HPD URL, and tool used to create HPD are included in the footer of every page.

HPD FORMAT SECTION 2: CONTENT IN DESCENDING ORDER OF QUANTITY

A dedicated entry is provided for each material and substance in a Nested Materials Inventory and for each substance in a Basic Inventory, based on the inventory threshold for each material or for the product as specified, except as allowed in detailed instructions for Variations.

In a Nested Material Inventory, for each material, the following entries are acceptable:

- Material Name: specific or generic name or “Undisclosed.”
- % (Percent): a fixed number or range, "Alternate" or “Undisclosed.”
- Material HPD URL: not required, except as indicated in detailed instructions for Variations. May be left blank.

- InvThreshold (Inventory Threshold): one threshold is provided per material.
- Residuals/Impurities: "Considered" or "Not Considered."
- Residuals and Impurities Notes: required entries provided. Refer to detailed requirements.
- Other Material Notes: required Entries provided. Refer to detailed requirements.

In a Basic Inventory, for the Product, the following entries are acceptable:

- Product Name: as in Section 1
- InvThreshold (Inventory Threshold): one threshold is provided for the entire product.
- Residuals/Impurities: "Considered" or "Not Considered."
- Residuals and Impurities Notes: required entries provided. Refer to detailed requirements.
- Other Product Notes: required Entries provided. Refer to detailed requirements.

In both Nested Materials Inventory and Basic Inventory, for each substance, the following entries are acceptable:

- Substance Name: specific or generic name, “Undisclosed” or “Unknown.”
- ID (Identifier): CAS number or other identifier, "Undisclosed," "Unknown," or "Not registered."
- % (Percent): a fixed number or range, "Alternate" or “Undisclosed.”
- GS (GreenScreen): Benchmark or List Translator score, or "NoGS."
- RC (Recycled content): "PostC," "PreC," "Both," "None," or "UNK."
- Nano: "Yes," "No," or "UNK."
- Role: function of substance provided.
- Hazards: name of applicable hazard types (with a separate line item for each hazard); "None found;" "Multiple;" "Unknown;" or as indicated in detailed instructions for Variations.
- Agency(ies) with Warnings: agency list abbreviation and hazard warning; "No warnings found on HPD Priority Hazard Lists" (if "None found" is indicated for Hazards); "Not disclosed by supplier" (if "Unknown" is indicated for hazards); or as indicated in detailed instructions for Variations.
- Substance Notes: required Entries provided. Refer to detailed requirements.

HPD FORMAT SECTION 3: CERTIFICATIONS AND COMPLIANCE

A dedicated entry is provided for each certification or compliance. VOC Emissions must be included and is listed first. VOC Content for wet/liquid-applied products is listed second, optionally followed by additional content or health-related certifications and compliance.

- Type of Certification: category of compliance (e.g. VOC Emissions).
- Name of Certification or Compliance: name of certification.
    - For VOC Emissions, the following entries are acceptable: "N/A," "CDPH Standard Method – Not tested," or "Inherently non-emitting source per LEED®."
- Certifying Party: "Self-declared," "Second Party," or "Third Party."
- Issue Date and Expiry Date are provided.
- Certifier or Lab: name of lab, or "None."
- Applicable Facilities: specific location of individual facilities, or "All."
- Certificate URL: certificate or compliance URL provided.
- Certification and Compliance Notes: Required Entries provided. Refer to detailed requirements.

HPD FORMAT SECTION 4: ACCESSORIES

A dedicated entry is provided for each required accessory, optionally followed by additional accessories recommended by manufacturer.

- Accessory Product or Material Name: name of required product provided; if no accessories are required, ““no accessories are required for this product” must be entered..
- HPD URL: accessory product HPD URL, or "No HPD available."
- Condition When Recommended or Required and/or Other Notes: Description provided when accessory product is required. VOC content is provided for liquid/wet-applied accessories when no separate HPD is available.

HPD FORMAT SECTION 5: GENERAL NOTES

Required Entries provided. Refer to detailed requirements.

HPD FORMAT SECTION 6: REFERENCES

Manufacturer information, including contact information for manufacturer's staff person responsible for the HPD, is provided.

5. Glossary

Basic Inventory Method: in an HPD, a simple listing of substances with their characteristics in descending order of quantity. No material level information is communicated.

Biological Material: a naturally occurring material containing genetic information and capable of reproducing itself or being produced within a biological system (e.g., beech wood, cotton).

CDPH Standard Method: the "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers" published by the California Department of Public Health (CDPH). Commonly referred to as the 01350 Standard. The most current version as of this publication is Version 1.2. See Appendix F.

Chemical Abstract Services Registration Number (CAS RN, CAS Number): a unique numerical identifier assigned by the Chemical Abstracts Service (www.cas.org) to every chemical described in the open scientific literature of elements, chemicals compounds, polymers and other substances.

Chemical Substance: *See Substance.*

Considered: When Residuals/Impurities are "Considered", the manufacturer has taken steps - such as those outlined in Emerging Best Practices - to understand which residuals and impurities may be present in the material or substance and disclose that information in the HPD. The term "Considered" is used, rather than "Included," to address currently unavoidable variability in methodology and rigor due to industry sector differences in knowledge about residuals and impurities in materials used.

Constituent: an Intentionally Used Substance that is intended to be incorporated into the final material/mixture -- that is, for which the performance characteristics (including cost reduction) are desired parts of the final material/mixture.

Contents: a general umbrella term for everything in a product or part (homogenous materials and/or chemical substances).

Form Specific Hazard: a hazard that is specifically associated with a particular form of a substance, such as the respirable form of crystalline silica or a nanomaterial form.

Geological Material: a material extracted as-is from the earth in rock or sediment form, e.g., stone, aggregate.

Green Chemistry: the design of chemical products and processes that reduce or eliminate the use and/or generation of hazardous substances.[20]

GreenScreen: short for "GreenScreen® for Safer Chemicals," a method for comparative chemical hazard assessment. It is used to assess the inherent hazards of chemicals and their potential effect on human health and the environment.

- The List Translator score (LT-) is a designation based on initial stand-alone screening of a substance against GreenScreen Specified Lists which consist of Authoritative and Screening Lists, generated by state, national, or international governments, authoritative bodies, and expert organizations.

[20] See https://www.epa.gov/greenchemistry

- The Benchmark score (BM-) is a designation based on a full GreenScreen assessment, which includes a comprehensive review of all available information including 1) measured data from standardized tests and scientific literature, 2) estimated data from suitable analogs and models, 3) hazard lists.

Both are free, public protocols; however, a full GreenScreen assessment used for a public claim must be completed by a licensed GreenScreen Profiler.

Hazard: the inherent capacity of a substance to cause an adverse effect to health or the environment. "Hazard" is distinct from but related to "risk" and/or "exposure."

Hazard Type: general term referring to hazard endpoints, mechanisms, and environmental fate characteristics of concern. This includes mammalian and ecological toxicity, fate, or physicochemical properties for which substances are evaluated.

Homogeneous Material: See Material.

Intentionally Used Substance: any chemical substance that is used in the production of the homogeneous material/mixture, whether or not it is intended to remain in the manufacturer's finished product. This includes all substances used in production, whether used by the product manufacturer or by an upstream supplier.

Intended Reaction Product: the products of any chemical reaction that are an intentional part of the production/formulation process of the material/mixture.

Impurity: an unintended substance present in a material/mixture as manufactured that was not an intentionally used substance in the production of the material/mixture. It may originate from the starting materials or be the result of secondary or incomplete reactions during the manufacturing process. For example, a chemical substance as supplied in commerce that is 99.0% pure is a mixture of the pure chemical substance and 1.0% of impurities.

Material (Homogeneous Material): a uniform solid, liquid, or gas composed of one or more substances that cannot be mechanically disjointed, in principle. It may be a chemical formulation or compound; of undefinable composition (UVCB); or a combination of the two. Coatings and finishes such as plating, powder coats, enamels, etc. are considered unique homogeneous materials.[21]

Metal Alloy Material: combination of two or more metallic elements, especially to give greater strength or corrosion resistance.

Nanomaterial: a substance intentionally engineered to achieve size-dependent properties and functions with one or more external dimensions or an internal structure measuring less than 100 nanometers[22]

Nested Materials Inventory Method: in an HPD, a listing of all materials in a product, with substances above reportable thresholds listed under each material in which they are present.

Part (Component): an optional functional grouping of contents to identify a portion of a product that is used modularly (e.g., cable, caster, chair arm). It is typically not sold to the end user independent of the product.

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[21] Adapted from RoHS definition: http://ec.europa.eu/environment/waste/rohs_eee/pdf/faq.pdf

[22] http://www.epa.gov/oppt/nano/

Priority Hazard List: authoritative chemical hazard list to be referenced when screening substances for hazard warnings, as compiled by the Health Product Declaration Collaborative. Selections are primarily based on criteria developed for the GreenScreen for Safer Chemicals.

Product: a finished good composed of homogeneous materials that are in turn made up of chemical substances. A product may be made of one or more homogeneous materials. A product may also be organized into parts, which are in turn made up of one or more homogenous materials. A product may also function as part of another product.

Published: the state of a completed Health Product Declaration that has been publicly released by the manufacturer for free public distribution. The authoritative location for publishing HPDs is the HPD Public Repository [http://www.hpd-collaborative.org/hpd-public-repository/]

Recycled Content:

- **Postconsumer** (PostC): waste materials generated by households or by commercial, industrial and institutional facilities in their role as end-users of the product, which can no longer be used for their intended purpose.
- **Preconsumer** (PreC): post-industrial material diverted from the waste stream during a manufacturing process. Excluded from this category is re-utilization of materials such as scrap that are generated in a process and capable of being reclaimed within the same process.

Residual: an Intentionally Used Substance that may be present in the final material/mixture but is not intended as a constituent. For example, this may refer to substances included in a manufacturing process to aid processing, as well as inputs to a reaction process such as reagents, catalysts, monomers.

Substance (Chemical Substance): matter of constant composition best characterized by the entities (molecules, formula units, atoms) it is composed of and by its physical properties such as density, refractive index, electric conductivity, melting point, etc.[23] (i.e., intentionally used substances, intentional reaction products, impurities).

[23] Adapted from the International Union of Pure and Applied Chemistry (IUPAC) Compendium of Chemical Terminology

Appendices

Appendix A: HPD Open Standard Format

Appendix B: HPD Priority Endpoints

Appendix C: HPD Priority List Criteria

Appendix D: HPD Priority List Sources

Appendix E: HPD Priority List Warnings

Appendix F: VOC Emissions Testing Standards and Programs

Appendix A: HPD Open Standard Format

This appendix contains the three HPD Formats:

- Nested Material Inventory with Material-level thresholds
- Nested Material Inventory with Product-level threshold
- Basic Inventory with Product-level threshold

Product Name
by Product Manufacturer
CLASSIFICATION:
PRODUCT DESCRIPTION:

Health Product Declaration v2.1
created via: HPDC Online Builder

Section 1: Summary

Nested Method/Material Threshold

CONTENT INVENTORY

Inventory Reporting Format
- O Nested Materials Method
- O Basic Method

Threshold Disclosed Per
- O Material
- O Product

Threshold Level
- O 100 ppm
- O 1,000 ppm
- O Per GHS SDS
- O Per OSHA MSDS
- O Other

Residuals/Impurities
Residuals/Impurities Considered in __ of __ Materials

Explanation(s) provided for Residuals/Impurities?
O Yes O No

Are All Substances Above the Threshold Indicated:

Characterized O Yes O No
Percent Weight and Role Provided?

Screened O Yes O No
Using Priority Hazard Lists with Results Disclosed?

Identified O Yes O No
Name and Identifier Provided?

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

Number of Greenscreen BM-4/BM-3 contents:

Contents highest concern GreenScreen Benchmark or List translator Score:

Nanomaterial:

INVENTORY AND SCREENING NOTES:

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): Regulatory (g/l):

Does the product contain exempt VOCs?

Are ultra-low VOC tints available?

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC Emissions:

CONSISTENCY WITH OTHER PROGRAMS

Third Party Verified?	PREPARER:	SCREENING DATE:
O Yes	VERIFIER:	PUBLISHED DATE:
O No	VERIFICATION #:	EXPIRY DATE:

Section 2: Content in Descending Order of Quantity

Nested Method/Material Threshold

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold.*
- *Nested Material Inventory method with individual Material-level thresholds.*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

MATERIAL NAME %: HPD URL:

MATERIAL THRESHOLD: RESIDUALS AND IMPURITIES CONSIDERED:

RESIDUALS/IMPURITIES NOTES:

OTHER MATERIAL NOTES:

SUBSTANCE NAME ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

MATERIAL NAME %: HPD URL:

MATERIAL THRESHOLD: RESIDUALS AND IMPURITIES CONSIDERED:

RESIDUALS/IMPURITIES NOTES:

OTHER MATERIAL NOTES:

SUBSTANCE NAME ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS — **Name of Certification or Compliance**

CERTIFYING PARTY: ISSUE DATE: EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

TYPE OF CERTIFICATION — **Name of Certification or Compliance**

CERTIFYING PARTY: ISSUE DATE: EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

ACCESSORY PRODUCT OR MATERIAL NAME HPD URL:

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Section 5: General Notes

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER:
ADDRESS:
WEBSITE:

CONTACT NAME:
TITLE:
PHONE:
EMAIL:

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classi cation and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic
PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspeci ed (insu cient data to benchmark)
LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

---

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- *a method for the assessment of exposure or risk associated with product handling or use,*
- *a method for assessing potential health impacts of: (i) substances used or created during the manufacturing process or (ii) substances created after the product is delivered for end use.*

Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

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The product manufacturer and any applicable independent verifier are solely responsible for the accuracy of statements and claims made in this HPD and for compliance with the HPD standard noted.

Product Name
by Product Manufacturer
CLASSIFICATION:
PRODUCT DESCRIPTION:

Health Product Declaration v2.1
created via: HPDC Online Builder

Section 1: Summary

Nested Method/Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- O Nested Materials Method
- O Basic Method

Threshold Disclosed Per
- O Material
- O Product

Threshold Level
- O 100 ppm
- O 1,000 ppm
- O Per GHS SDS
- O Per OSHA MSDS
- O Other

Residuals/Impurities
Residuals/Impurities Considered in __ of __ Materials

Explanation(s) provided for Residuals/Impurities?
O Yes O No

Are All Substances Above the Threshold Indicated:

Characterized O Yes O No
Percent Weight and Role Provided?

Screened O Yes O No
Using Priority Hazard Lists with Results Disclosed?

Identified O Yes O No
Name and Identifier Provided?

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

MATERIAL | SUBSTANCE | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

Number of Greenscreen BM-4/BM-3 contents:

Contents highest concern GreenScreen Benchmark or List translator Score:

Nanomaterial:

INVENTORY AND SCREENING NOTES:

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): Regulatory (g/l):

Does the product contain exempt VOCs?

Are ultra-low VOC tints available?

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC Emissions:

CONSISTENCY WITH OTHER PROGRAMS

Third Party Verified?	PREPARER:	SCREENING DATE:
O Yes	VERIFIER:	PUBLISHED DATE:
O No	VERIFICATION #:	EXPIRY DATE:

Section 2: Content in Descending Order of Quantity

Nested Method/Product Threshold

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold.*
- *Nested Material Inventory method with individual Material-level thresholds.*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

MATERIAL NAME

%: HPD URL:

MATERIAL THRESHOLD: RESIDUALS AND IMPURITIES CONSIDERED:

RESIDUALS/IMPURITIES NOTES:

OTHER MATERIAL NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

MATERIAL NAME

%: HPD URL:

MATERIAL THRESHOLD: RESIDUALS AND IMPURITIES CONSIDERED:

RESIDUALS/IMPURITIES NOTES:

OTHER MATERIAL NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS — **Name of Certification or Compliance**

CERTIFYING PARTY: ISSUE DATE: EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

TYPE OF CERTIFICATION — **Name of Certification or Compliance**

CERTIFYING PARTY: ISSUE DATE: EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

ACCESSORY PRODUCT OR MATERIAL NAME HPD URL:

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Section 5: General Notes

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER:
ADDRESS:
WEBSITE:
CONTACT NAME:
TITLE:
PHONE:
EMAIL:

KEY

OSHA MSDS Occupational Safety and Health Administration Material Safety Data Sheet
GHS SDS Globally Harmonized System of Classi cation and Labeling of Chemicals Safety Data Sheet

Hazard Types

AQU Aquatic toxicity
CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
MAM Mammalian/systemic/organ toxicity
MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic
PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspeci ed (insu cient data to benchmark)
LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:
Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product
Nano Composed of nano scale particles or nanotechnology
Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

---

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Information about life cycle, exposure and/or risk assessments performed on the product may be reported by the manufacturer in appropriate Notes sections, and/or, where applicable, in the Certifications section.

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Product Name
by Product Manufacturer
CLASSIFICATION:
PRODUCT DESCRIPTION:

Health Product Declaration v2.1
created via: HPDC Online Builder

Section 1: Summary

Basic Method/Product Threshold

CONTENT INVENTORY

Inventory Reporting Format
- O Nested Materials Method
- O Basic Method

Threshold Disclosed Per
- O Material
- O Product

Threshold Level
- O 100 ppm
- O 1,000 ppm
- O Per GHS SDS
- O Per OSHA MSDS
- O Other

Residuals/Impurities
- O Considered
- O Partially Considered
- O Not Considered

Explanation(s) provided for Residuals/Impurities?
O Yes O No

Are All Substances Above the Threshold Indicated:

Characterized O Yes O No
Percent Weight and Role Provided?

Screened O Yes O No
Using Priority Hazard Lists with Results Disclosed?

Identified O Yes O No
Name and Identifier Provided?

CONTENT IN DESCENDING ORDER OF QUANTITY

Summary of product contents and results from screening individual chemical substances against HPD Priority Hazard Lists and the GreenScreen for Safer Chemicals®. The HPD does not assess whether using or handling this product will expose individuals to its chemical substances or any health risk. Refer to Section 2 for further details.

SUBSTANCE | *RESIDUAL OR IMPURITY*
GREENSCREEN SCORE | HAZARD TYPE

Number of Greenscreen BM-4/BM-3 contents:

Contents highest concern GreenScreen Benchmark or List translator Score:

Nanomaterial:

INVENTORY AND SCREENING NOTES:

VOLATILE ORGANIC COMPOUND (VOC) CONTENT

Material (g/l): Regulatory (g/l):

Does the product contain exempt VOCs?

Are ultra-low VOC tints available?

CERTIFICATIONS AND COMPLIANCE *See Section 3 for additional listings.*

VOC Emissions:

CONSISTENCY WITH OTHER PROGRAMS

Third Party Verified?
O Yes
O No

PREPARER:
VERIFIER:
VERIFICATION #:

SCREENING DATE:
PUBLISHED DATE:
EXPIRY DATE:

Section 2: Content in Descending Order of Quantity

Basic Method/Product Threshold

This section lists contents in a product based on specific threshold(s) and reports detailed health information including hazards. This HPD uses the inventory method indicated above, which is one of three possible methods:

- *Basic Inventory method with Product-level threshold.*
- *Nested Material Inventory method with Product-level threshold.*
- *Nested Material Inventory method with individual Material-level thresholds.*

Definitions and requirements for the three inventory methods and requirements for each data field can be found in the HPD Open Standard version 2.1, available on the HPDC website at: www.hpd-collaborative.org/hpd-2-1-standard

PRODUCT NAME

PRODUCT THRESHOLD:

RESIDUALS AND IMPURITIES CONSIDERED:

RESIDUALS/IMPURITIES NOTES:

OTHER PRODUCT NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

Section 3: Certifications and Compliance

This section lists applicable certification and standards compliance information for VOC emissions and VOC content. Other types of health or environmental performance testing or certifications completed for the product may be provided.

VOC EMISSIONS | **Name of Certification or Compliance**

CERTIFYING PARTY: | ISSUE DATE: | EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

TYPE OF CERTIFICATION | **Name of Certification or Compliance**

CERTIFYING PARTY: | ISSUE DATE: | EXPIRY DATE:

CERTIFIER OR LAB:

APPLICABLE FACILITIES:

CERTIFICATE URL:

CERTIFICATION AND COMPLIANCE NOTES:

Section 4: Accessories

This section lists related products or materials that the manufacturer requires or recommends for installation (such as adhesives or fasteners), maintenance, cleaning, or operations. For information relating to the contents of these related products, refer to their applicable Health Product Declarations, if available.

ACCESSORY PRODUCT OR MATERIAL NAME | HPD URL:

CONDITION WHEN RECOMMENDED OR REQUIRED AND/OR OTHER NOTES:

Section 5: General Notes

Section 6: References

MANUFACTURER INFORMATION

MANUFACTURER:
ADDRESS:
WEBSITE:
CONTACT NAME:
TITLE:
PHONE:
EMAIL:

KEY

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CAN Cancer
DEV Developmental toxicity
END Endocrine activity
EYE Eye irritation/corrosivity
GEN Gene mutation
GLO Global warming
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MUL Multiple hazards
NEU Neurotoxicity
OZO Ozone depletion
PBT Persistent Bioaccumulative Toxic
PHY Physical Hazard (reactive)
REP Reproductive toxicity
RES Respiratory sensitization
SKI Skin sensitization/irritation/corrosivity
LAN Land Toxicity
NF Not found on Priority Hazard Lists

GreenScreen (GS)

BM-4 Benchmark 4 (prefer-safer chemical)
BM-3 Benchmark 3 (use but still opportunity for improvement)
BM-2 Benchmark 2 (use but search for safer substitutes)
BM-1 Benchmark 1 (avoid - chemical of high concern)
BM-U Benchmark Unspeci ed (insu cient data to benchmark)
LT-P1 List Translator Possible Benchmark 1
LT-1 List Translator Likely Benchmark 1
LT-UNK List Translator Benchmark Unknown (insufficient information from List Translator lists to benchmark)
NoGS Unknown (no data on List Translator Lists)

Recycled Types

PreC Preconsumer (Post-Industrial)
PostC Postconsumer
Both Both Preconsumer and Postconsumer
Unk Inclusion of recycled content is unknown
None Does not include recycled content

Other Terms

Inventory Methods:

Nested Method / Material Threshold Substances listed within each material per threshold indicated per material
Nested Method / Product Threshold Substances listed within each material per threshold indicated per product
Basic Method / Product Threshold Substances listed individually per threshold indicated per product

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Third Party Verified Verification by independent certifier approved by HPDC
Preparer Third party preparer, if not self-prepared by manufacturer
Applicable facilities Manufacturing sites to which testing applies

---

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- *a method for the assessment of exposure or risk associated with product handling or use,*
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Appendix B: HPD Priority Endpoints

The HPD uses fewer hazard categories and shorter names than the GreenScreen. The following table translates GreenScreen Hazard categories to HPD Hazard Categories.

HPD Abbrev	HPD Hazard Categories	GreenScreen Hazard Categories	GreenScreen Group
PBT	PBT (Persistent Bioaccumulative Toxic)	Bioaccumulation	Environmental Fate
		Persistence	Environmental Fate
CAN	Cancer	Carcinogenicity	Group I Human
DEV	Development	Developmental Toxicity (incl. Developmental Neurotoxicity)	Group I Human
REP	Reproductive	Reproductive Toxicity	Group I Human
END	Endocrine	Endocrine Activity	Group I Human
GEN	Gene Mutation	Mutagenicity/Genotoxicity	Group I Human
RES	Respiratory	Respiratory Sensitization	Group II* Human
NEU	Neurotoxicity	Neurotoxicity - Repeated Exposure	Group II* Human
NEU	Neurotoxicity	Neurotoxicity-Any Exposure	Group II Human
NEU	Neurotoxicity	Neurotoxicity-Single Exposure	Group II Human
MAM	Mammal	Acute Mammalian Toxicity	Group II Human
MAM	Mammal	Systemic Toxicity/Organ Effects (Repeated Exposure) including Immune System Effects	Group II* Human
MAM	Mammal	Systemic Toxicity/Organ Effects (Single Exposure)	Group II Human
EYE	Eye	Eye Irritation/Corrosivity	Group II Human
SKI	Skin	Skin Irritation/Corrosivity	Group II Human
SKI	Skin	Skin Sensitization	Group II* Human
AQU	Aquatic Toxicity	Acute Aquatic Toxicity	Ecotoxicity
AQU	Aquatic Toxicity	Chronic Aquatic Toxicity	Ecotoxicity
LAN	Land Toxicity	Ecotoxicity	Ecotoxicity
GLO	Global Warming	_ Not in GreenScreen_	_ Not in GreenScreen_
OZO	Ozone Depletion	_ Not in GreenScreen_	_ Not in GreenScreen_
PHY	Physical Hazard	Flammable	Physical Hazard
PHY	Physical Hazard	Reactive	Physical Hazard
MUL	Multiple	Used for warning lists that cover multiple hazards	
UNK	Unknown		
UND	Undisclosed		

Appendix C: HPD Priority List Criteria

Authoritative chemical hazard lists to be referenced in scanning of product ingredients for hazards have been selected for use in the HPD by the criteria described below.

Lists are primarily selected based upon criteria developed for the GreenScreen for Safer Chemicals (https://www.greenscreenchemicals.org/learn). All lists in the GreenScreen v1.3 List Translator are included that have any of the following GreenScreen Benchmark or Hazard indicators:

- ***Benchmark Score*** of Likely Benchmark 1 (LT-1) or Possible Benchmark 1 (LT-P1). Includes lists characterized in the GreenScreen List Translator as either Authoritative or Screening lists
- ***Hazard Range*** including Very High (vH), High (H) or Moderate (M) for GreenScreen Group I Human health effects (which includes Carcinogenicity, Mutagenicity/Genotoxicity, Reproductive Toxicity, Developmental Toxicity, Developmental Neurotoxicity and Endocrine Activity). Includes only lists characterized in the GreenScreen List Translator as Authoritative. Screening lists are not included. If GreenScreen hazard range includes Low, it is not necessary to include this list.
- ***Hazard Range*** including Very High (vH) or High (H) for all other endpoints: Group II Human health effects (which includes Systemic Toxicity/Organ Effects including Immune System effects, Neurotoxicity, Respiratory Sensitization, and Skin Sensitizations), Ecotoxicity, Flammability and Reactivity. Includes only lists characterized in the GreenScreen List Translator as Authoritative. Screening lists are not included. If GreenScreen hazard range includes Low, it is not necessary to include this list.

Additional lists have been added to address several issues not currently included in the GreenScreen List Translator:

- Ozone depletion:
    - EC - Ozone depletion substances (EU Ozone)
    - US EPA Ozone Depleting Substances (EPA-ODS)
    - EC - CLP/GHS Hazard Statements (EU H-Statements) EUH059: Hazardous to the Ozone Layer
- Global warming:
    - US EPA - Global Warming Potentials (EPA-GW) Global warming potential greater than 100
    - IPCC – Global Warming Chemicals
- Other select priority lists:
    - US EPA PPT Chemical Action Plans
    - San Antonio Statement on Brominated and Chlorinated Flame Retardants

Appendix D: HPD Priority List Sources

Those highlighted in gray are new.

ID	Agency & List Title	Full List Title	Hazard Issuing Agency
23	AOEC - Asthmagens	AOEC Exposure Codes - Asthmagen List	Association of Occupational and Environmental Clinics (AOEC)
334	Australia - GHS	Australia - GHS	Safe Work Australia
37	CA EPA - Prop 65	Chemicals Known to the State to Cause Cancer or Reproductive Toxicity - California Proposition 65 - Safe Drinking Water and Toxic Enforcement Act Of 1986	California Environmental Protection Agency (CA EPA)
307	ChemSec - SIN List	SIN (Substitute It Now) List	ChemSec, The International Chemical Secretariat
8	EC - CEPA DSL	Canadian Environmental Protection Act (CEPA) - Environmental Registry - Domestic Substances List (DSL)	Environment Canada & Health Canada (EC)
312	EHP - San Antonio Statement on BFRs & CFRs	San Antonio Statement on Brominated and Chlorinated Flame Retardants	Environmental Health Perspectives
324	EU - Annex VI CMRs	Classification, Labelling and Packaging Regulation (CLP) - Classification and Labelling Inventory - CMRs	European Union / European Commission (EU EC)
10	EU - ESIS PBT	European chemical Substances Information System (ESIS) - PBT List	European Union / European Commission (EU EC)
305	EU - GHS (H-Statements)	Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) Annex 6 Table 3-1 - GHS Hazard code criteria	European Union / European Commission (EU EC)
60	EU - Ozone depletion substances	Regulation (EC) No 1005/2009 of the European Parliament and of the Council of 16 September 2009 on substances that deplete the ozone layer - Controlled substances and new substances	European Union / European Commission (EU EC)
3	EU - Priority Endocrine Disrupters	EU Community Strategy for Endocrine Disrupters - Priority List	European Union / European Commission (EU EC)
306	EU - REACH Annex XVII CMRs	Restrictions On The Manufacture, Placing On The Market And Use Of Certain Dangerous Substances, Preparations And Articles - Carcinogens, Mutagens & Reproductive Toxicants	European Union / European Commission (EU EC)
19	EU - R-phrases	Substances with EU Risk & Safety Phrases (Commission Directive 67-548-EEC)	European Union / European Commission (EU EC)
53	EU - SVHC Authorisation List	Substances of Very High Concern for REACH Annex XIV authorisation (Article 59)	European Union / European Commission (EU EC)
28	G&L - Neurotoxic Chemicals	Developmental neurotoxicity of industrial chemicals, List of 201 Chemicals known to be neurotoxic in man	Lancet: authors Philippe Grandjean & Phil Landrigan
310	German FEA - Substances Hazardous to Waters	Administrative Regulation on the Classification of Substances hazardous to waters into Water Hazard Classes (Verwaltungsvorschrift wassergefahrdende Stoffe - VwVwS)	German Federal Environment Agency (FEA)

ID	Agency & List Title	Full List Title	Hazard Issuing Agency
30	GMT - Scorecard	Scorecard Health Effects Lists	Green Media Toolshed
49	HBN - Precaution	Precautionary Chemical Hazard List	Healthy Building Network (HBN)
34	IARC	Monographs On the Evaluation of Carcinogenic Risks to Humans	International Agency for Research on Cancer, World Health Organization (IARC)
339	IPCC - Global Warming Chemicals	Intergovernmental Panel for Climate Change (IPCC) Third Assessment Report, 2001	Intergovernmental Panel for Climate Change (IPCC)
325	Japan - GHS	Japan GHS Classifications	Government of Japan
320	Korea - GHS	Korea GHS Classification and Labelling for Toxic Chemicals	Republic of Korea - National Institute of Environmental Research (NIER)
313	MAK	List of Substances with MAK & BAT Values & Categories	MAK Commission of Germany (Deutsche Forschungsgemeinschaft)
340	Malaysia - GHS	Malaysia - GHS	Malaysia Department of Occupational Safety and Health
323	New Zealand - GHS	New Zealand HSNO Chemical Classifications	New Zealand Environmental Protection Authority (NZ EPA)
54	OR DEQ - Priority Persistent Pollutants	Priority Persistent Pollutant (P3) List	Oregon Department of Environmental Quality (ORDEQ)
9	OSPAR - Priority PBTs & EDs & equivalent concern	Chemical Lists of Priority Action & Possible Concern	Oslo-Paris Convention Commission (OSPAR)
308	TEDX - Potential Endocrine Disruptors	TEDX (The Endocrine Disruption eXchange) List of Potential Endocrine Disruptors	The Endocrine Disruption Exchange (TEDX)
7	UNEP Stockholm Conv - Persistent Organic Pollutants	Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex A, B & C and under Review	United Nations Environment Programme (UNEP)
2	US CDC - Occupational Carcinogens	NIOSH Carcinogen List	US Centers for Disease Control (US CDC)
319	US EPA - EPCRA Extremely Hazardous Substances	Extremely Hazardous Substances - EPCRA Section 302	US Environmental Protection Agency (US EPA)
59	US EPA - Global Warming Potentials	Global Warming Potentials of Ozone Depletors and Substitutes	US Environmental Protection Agency (US EPA)
20	US EPA - IRIS Carcinogens	Integrated Risk Information System Database (IRIS)	US Environmental Protection Agency (US EPA)
58	US EPA - Ozone Depleting Substances	Ozone-Depleting Substances (ODS) Class I & Class II	US Environmental Protection Agency (US EPA)
56	US EPA - PPT Chemical Action Plans	Risk Management Actions & TSCA Work Plans	US Environmental Protection Agency (US EPA)

ID	Agency & List Title	Full List Title	Hazard Issuing Agency
25	US EPA - Priority PBTs (NWMP)	Priority Chemicals List	US Environmental Protection Agency (US EPA)
26	US EPA - Priority PBTs (PPT)	Priority PBT Profiles (Pollution Prevention and Toxics)	US Environmental Protection Agency (US EPA)
27	US EPA - Toxics Release Inventory PBTs	TRI PBT Chemical List	US Environmental Protection Agency (US EPA)
35	US NIH - Report on Carcinogens	Report on Carcinogens	US Department of Health & Human Services - National Institutes of Health (US NIH)
6	US NIH - Reproductive & Developmental Monographs	Expert Panel Reports & Monographs on Reproductive and Developmental Toxicity	US Department of Health & Human Services - National Institutes of Health (US NIH)
24	WA DoE - PBT	Chapter 173-333 WAC Persistent Bioaccumulative Toxins	Washington State Department of Ecology (WA DOE)

Appendix E: HPD Priority List Warnings (link to HPDC website)

This document, “HPD Priority List Warnings,” is available on the HPDC website [http://www.hpd-collaborative.org/wp-content/uploads/2017/05/Appendix-E-2.1-FINAL_Secure.pdf].

Appendix F: VOC Emissions Testing Standards and Programs

CDPH Standard Method: The "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers," published by the California Department of Public Health (CDPH). Commonly referred to as the 01350 Standard. The most current version as of this publication is Version 1.2.[24]

Interior Products as per CDPH: These are products used in the interior of a building for which the CDPH Standard Method v1.2 provides scenarios and hence can be tested and modeled for compliance with this Standard. The current list per Tables 4-3 and 4-5 is:

- flooring (all types)
- ceiling (all types)
- wall paint & wallcovering (also applies to coatings & sealants)
- thermal insulation - ceiling & wall
- wall base
- visual aid boards
- desk
- seating
- door & other millwork
- window treatments

CDPH Standard Method Version 1.2 includes a provision in Section 4.3.6 outlining modeling parameters for products not specifically addressed in data tables. Thus, some additional products may be able to be tested and modeled for compliance with this Standard. In addition, some certification programs such as ULE GREENGUARD and SCS Global Indoor Advantage™ Gold have created their own scenarios and certification protocols in order to test and provide certifications for products in other product categories than those defined by the CDPH Standard. These certifications also may be listed. In categories where there is not a formal scenario outlined in the current version of CDPH Standard Method for products not tested, "N/A" may be indicated, rather than "CDPH Standard Method – Not tested".

The Indoor Environmental Quality Technical Advisory Group (IEQ TAG) and USGBC staff maintain a current vetted listing of LEED v4 IEQ Low Emitting Materials credit conformant testing laboratories and third party certifiers[25]. This table lists in the "General Emissions Evaluation" column, programs that are known to adhere to the quality assurance and quality control standards incorporated in the CDPH Standard Method or AgBB[26].

[24] For more information: https://archive.cdph.ca.gov/programs/IAQ/Pages/VolatileOrganicCompounds.aspx For a direct link to the Version 1.1 standard: https://archive.cdph.ca.gov/programs/IAQ/Documents/cdph-iaq_standardmethod_v1_1_2010%20new1110.pdf

[25] http://www.usgbc.org/resources/low-emitting-materials-third-party-certification-table

[26] AgBB - Ausschuss zur gesundheitlichen Bewertung von Bauprodukten (Committee for Health-related Evaluation of Building Products)