Health Product Declaration®
Open Standard

Version 2.0

September 10, 2015

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The HPD Collaborative Board of Directors and staff extend our deepest appreciation to the many engaged participants from a wide range of industry sectors who volunteered countless hours towards the creation of the HPDv2.0 Open Standard. The project was led by HPDC Staff with the support of an active Technical Committee. The Manufacturers Advisory Panel provided an immense amount of invaluable input and testing. Many individuals from design firms and other organizations provided critical feedback and design support. The Harmonization Task Group partners, USGBC staff, and members of the USGBC's Material Resources Technical Advisory Group (MR TAG) helped ensure that HPDv2.0 would support a harmonized approach to product inventory disclosure. For a full list of contributors please see the HPD Collaborative website.

Health Product Declaration Open Standard Version 2.0

Effective Date: September 10, 2015

Table of Contents

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 whatever method for preparing an HPD is used.

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 does not:

- provide an assessment of health impacts throughout the product life cycle,
- provide an assessment of exposure or risk associated with product handling or use[1],
- address potential health impacts of: (i) substances used or created during the manufacturing process unless they remain in the final product, or (ii) substances created after the product is delivered for end use (e.g., if the product burns, degrades, or otherwise changes chemical composition).

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

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. Users are also encouraged to review the FAQs and Emerging Best Practices.

An HPD must contain current data. Requirements for updating are addressed in HPD Format Section 1, Summary, Expiry Date [See 2.1.6.6].

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 HPD section and data element is described below, along with additional guidance as needed.

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.

For the purpose of an HPD disclosure, product contents include a product's homogeneous materials ("materials") as well as the itemized chemical substances ("substances") that comprise each material, as 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).

There are two approaches to organizing information about substances on an HPD. The instructions below describe the preferred approach, which groups substances under each material. However**,** it is also possible to publish a compliant HPD without grouping substances under materials or sharing any material-level information. See Variations, Basic Inventory Display [See 3.6] for supplementary instructions needed to publish an HPD using this variation.

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 v2.0 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

2.1.2.0 General Information for Content Inventory

A typical product's content inventory is dependent on knowledge of information at the material level, quantified by two factors: Threshold [See 2.1.2.1] and Residuals and Impurities [See 2.1.2.2].

2.1.2.1 Threshold (per material)

Concentration(s) above which substances present within the material are itemized by the manufacturer or supplier, as applicable. Options 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."

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 in X of Y Materials

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 may be located in HPD Format Section 2: Material Notes [See 2.2.1.6] and/or Section 5: General Notes [See 2.5] as indicated by the selection of "see Section 2: Material Notes" and/or "see Section 5: General Notes." Explanations that apply to a specific material should be in Material Notes; explanations that apply to the entire product or multiple materials should be in General Notes. 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] for each material.
- "No" indicates the response is not true for one or more substances inventoried, based on the selected Inventory Threshold for each material.

This summary applies to each individual substance present in each material at or above that material's 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 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.

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

S*ingle 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 2.2.6], 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 2.2.1.6: Material 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] and how it may influence responses to these entries (e.g., “The only Materials 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 Notes,
- if using Basic Inventory Display, the following text must be included: "Manufacturer has opted for the basic inventory display – chemical substances are listed by weight in the entire product instead of grouped by material."

Optional Entries:

To augment the summary information in Threshold (per material) [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 that correspond to particular aspects of disclosure (e.g., "Materials representing 95.0% of the product weight meet the 1,000 ppm Threshold and are Screened" or "For Materials representing 5.0% of the product weight, only MSDS 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

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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

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 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.

2.1.6 Publication

2.1.6.1 Self-Published, Third Party Verified

Party that is attesting to the information in the HPD. "Self-published" indicates that the HPD is the product manufacturer's self-declared claim (First Party). "Third Party" is a reserved term for a third party verification program that is under development by the HPD Collaborative. Updates will be provided on the website.

2.1.6.2 Verifier

Name of the third party organization that is verifying the HPD. If self-published, this is left blank. Reserved until release of the third party verification program by the HPD Collaborative.

2.1.6.3 Verification Number

Unique identifier provided by the verifying organization to track the verification of the HPD. If self-published, this is left blank. Reserved until release of the third party verification program by the HPD Collaborative.

2.1.6.4 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 to disclose in the HPD.

2.1.6.5 Release Date

Date of publication. This must reflect the date on which the HPD is made publicly available.

2.1.6.6 Expiry Date

Date of expiration. An HPD must contain current data and expires three years after the Screening Date [See 2.1.6.4]. HPDs also must meet the following requirements for updating:

- 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.

[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

- 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.
- A new HPD may be published or an updated HPD republished using an outdated format for up to one year after the next major version of the Standard has been released (2.0, 3.0, 4.0, etc.). However any HPD using an outdated format expires three years after the next major version of the Standard has been released (e.g., an HPD using Version 1.0 expires three years after the release of Version 2.0).

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). 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

2.2.1.0 General Information on Materials

The Content Inventory 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). 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].

Materials are listed in descending order of quantity in the product.

2.2.1.1 Material Name

Title of the Material. Options include:

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

If "Undisclosed," the rationale for nondisclosure is explained in the Material Notes [See 2.2.1.6].

2.2.1.2 Percent (%)

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 Material Notes [See 2.2.1.6] 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 Material Notes [See 2.2.1.6] 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 Material Notes [See 2.2.1.6].
- 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 Material Notes [See 2.2.1.6]. 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 Material Notes [See 2.2.1.6]. The product cannot be identified as "Characterized" if the percentage of any material in the product is "Undisclosed."

2.2.1.3 HPD URL

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 above which substances present within the material 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

[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

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**: The Occupational Safety and Health Administration (OSHA) MSDS threshold is a transitional option for HPD v2.0[13]. Inventory of substances in a material meets the level of resolution required for Material Safety Data Sheets as prescribed by OSHA: 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 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 Material Notes.

The identified inventory threshold always applies to intentionally used substances intended to be constituents of a material 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, are known - or have the potential - to be present at or above the selected threshold. Refer to Glossary [See 5] for definitions.

Only one threshold may be indicated per material. If inventory data for the substances within a single material are obtained at multiple threshold levels, the least stringent threshold must be indicated, with further explanation in the Material Notes [See 2.2.1.6].

2.2.1.5 Residuals/Impurities

Indication of whether residuals and impurities are considered for the material 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 - to understand what residuals and impurities may be present in the material and disclose that information on 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 is documented on the HPD Collaborative website as Emerging Best Practices.

Whether “Considered” or “Not Considered” is indicated, an explanation must be provided. Related information that applies to more than one material may be indicated in HPD Format Section 5: General Notes [See 2.5]. Use the Material Notes for related information if some materials are “Considered” and others are “Not Considered” or if different methodologies are used for different materials.

- If “Not Considered” is indicated, an explanation must be provided as to why the manufacturer has not considered residuals and impurities.
- If “Considered” is indicated,

[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.

- An explanation must be provided in HPD Format Section 5: General Notes [See 2.5] or in the respective Material Notes [See 2.2.1.6] for each material 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 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 current version of Emerging Best Practices on the HPD website) 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 Material 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 Material Notes [See 2.2.1.6] must clearly justify this determination.

  Note: When content inventory is documented as per OSHA MSDS or 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, a MSDS or 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 Material Notes

Explanation of the material’s characteristics.

The required entries are:

- explanation or rationale for nondisclosure if Material Name [See 2.2.1.1] is “Undisclosed;”
- explanation for ranges, alternates and undisclosed material percentage as required in 2.2.1.2 Percent (%);
- 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;
- explanations for residuals and impurities as required in 2.2.1.5 Residuals/Impurities, unless provided in the General Notes;
- 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 [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.

2.2.2 Substance

2.2.2.0 General Information on Substances

Each substance in a material is included with its own line item entry.

Substances should be listed in descending order of quantity within the material.

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 material 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 by weight. For the following instances, the same guidance applies as for "Percent" (%) [See 2.2.1.2] in the Material section above, with explanation entered in the Substance Notes [See 2.2.2.9] instead of the Material Notes [See 2.2.1.6]:

- ranges, variable amounts over time;
- ranges, similar products;

[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.

- 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, 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 an "UNK" score. 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 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.

- 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. 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. Each substance must be screened against the Priority Hazard Lists to determine if the substance is listed. The required Priority Hazard Lists are identified in Appendix D - HPD Priority List Sources. Some lists address multiple hazard types. Refer to Appendix E - HPD Priority List Warnings for the list of the Hazard Warnings required to be scanned when screening a substance.

If the substance is listed, indicate the associated Hazard Type under *Hazards,* and the Agency List Abbreviation and Hazard Warning separated by a colon (“:”) under *Agencies with Warnings* as per the standardized forms in Appendix E - HPD Priority List 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 Agency and Warning related to a single Hazard Type, add “also in” followed by each of the relevant Agency List Abbreviations.

- 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 which 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 Material Notes [See 2.2.1.6] 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 the 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), that certification must be indicated along with the building type scenario applied if other than the combined office and schools (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.

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.

[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

- 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.

2.3.10 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, and 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.

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 Residuals/Impurities were considered or why they were not considered [See 2.1.2.2 and 2.2.1.5] if the same approach was applied to most or all materials and is not explained in the individual Material Notes [See 2.2.1.6]. This explanation must appear in General Notes when Basic Inventory Display is used [See 3.6],
- 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 Notes [See 2.2.1.6] 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.

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, an assessment used for a public claim must be completed by a licensed profiler. See the GreenScreen website for lists of profilers and published assessments.

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)
- UNK: Unknown (chemical is not identified on any GreenScreen List Translator Lists)
- BM-U: Benchmark Unspecified (insufficient data to benchmark)
- BM-2: Benchmark 2 (use but search for safer substitutes)

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

- BM-3: Benchmark 3 (use but still opportunity for improvement)
- BM-4: Benchmark 4 (prefer-safer chemical)

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,
- basic inventory display.

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:

- 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 Material Notes [See 2.2.1.6] and 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 Material Notes [See 2.2.1.6]. 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 Material Notes [See 2.2.1.6] 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 Material Notes [See 2.2.1.6] 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."p 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 "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.

[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.

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 has created 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. There may be changes to this guidance, and additional material types may be added to this online area between releases of future versions of the HPD 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 2.1.3.5].

Special Conditions are 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.

3.6 Basic Inventory Display

Materials are the "building blocks" for an HPD. However, it is also possible to publish a compliant HPD without grouping substances under materials or sharing any material level information. The result, called Basic Inventory Display, simply lists substances with their characteristics in descending order of quantity in HPD Format Section 2.

The underlying methodology for creating a Basic Inventory Display is the same as outlined for all HPDs. Each homogeneous material present in the product must be inventoried as described in HPD Format Section 2. However, instead of displaying each homogeneous material in the product with its associated substances, the Basic Inventory Display displays only substances and the percent of each substance in the product by weight, Percent (%). Substances may represent a very small percentage of the total product.

When an HPD is published using Basic Inventory Display, the following alternative instructions apply:

- *2.1.2.1 Threshold (per material)*: Only the least stringent threshold of any materials may be indicated because individual Material thresholds are not published thus individual material claims cannot be substantiated.

- *2.1.2.2 Residuals and impurities considered in X of Y materials*: Materials for which residuals and impurities are considered must be indicated in HPD Format Section 5: General Notes [See 2.5], or the number of considered materials and total materials must be indicated as “Unknown.”
- *2.1.3 Content in Descending Order of Quantity*: A product's substances are listed in descending order of quantity along with the hazards associated with each substance.
- *Inventory and screening notes*: The following text must be included: "Manufacturer has opted for the basic inventory display – chemical substances are listed by weight in the entire product instead of grouped by material."
- *2.2.1.1 - 2.2.1.6* are not displayed, but may be needed to accurately build content for the Basic Inventory Display.
- *2.2.2.3 Percent (%)*: For Basic Inventory Display, the percentage is the substance’s percentage in the product by weight to at least one decimal place.

4. Checklist for a Compliant HPD

HPDs must have the following entries accurately completed to comply with the HPD Open Standard. Refer to individual sections in the HPD Instructions for detailed requirements.

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.
- Threshold: at least one indicated; multiple levels may be indicated.
- Residuals and Impurities Considered in X of Y materials: “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.
- Self-Published is checked. Third party verification is under development.
- Screening Date, Release 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, based on the inventory threshold for each material, except as allowed in detailed instructions for Variations.

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."
- Material Notes: required Entries provided. Refer to detailed requirements.

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 "UNK."
- 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 nonemitting 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.
- 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 Display: in an HPD, a simple listing of substances with their characteristics in descending order of quantity. No material level information is communicated. [Refer to 3.6 for Requirements for Basic Inventory Display.]

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 1.1. 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 and disclose that information on 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.

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 authoritative hazard lists. 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 assessment used for a public claim must be completed by a licensed profiler.

Hazard: the inherent capacity of a substance to cause an adverse effect to health or the environment. "Hazard" is not synonymous with "risk" and/or "exposure". See HPD Collaborative website for discussion of these terms.

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.[20]

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[21]

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.

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.

[20] Adapted from RoHS definition: http://ec.europa.eu/environment/waste/rohs_eee/pdf/faq.pdf
[21] http://www.epa.gov/oppt/nano/

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 Health Product Declaration that has been released for distribution to the public, with all of the necessary data for compliance and an accurate portrayal of a product.

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.[22] (i.e., intentionally used substances, intentional reaction products, impurities).

[22] 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

Product Name by Manufacturer Name

CLASSIFICATION:

PRODUCT DESCRIPTION:

Health Product Declaration v2.0

created via:

Section 1: Summary

CONTENT INVENTORY

Threshold (per material)

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

Residuals and impurities considered in X of Y materials

- O see Section 2: Material Notes
- O see Section 5: General Notes

Based on the selected Content Inventory Threshold:

Characterized..... O Yes O No

Are the Percent Weight and Role provided for all substances?

Screened..... O Yes O No

Are all substances screened using Priority Hazard Lists with results disclosed?

Identified..... O Yes O No

Are all substances disclosed by Name (Specific or Generic) and Identifier?

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

MATERIAL [SUBSTANCE GS HAZ | HAZ | HAZ ; SUBSTANCE GS HAZ | HAZ | HAZ ; SUBSTANCE GS HAZ | HAZ | HAZ ; SUBSTANCE GS HAZ | HAZ | HAZ ; *RESIDUAL OR IMPURITY* GS HAZ | HAZ | HAZ] ; MATERIAL [SUBSTANCE GS HAZ | HAZ . . .

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

VOC Emissions: Name of Certification
Type of Certification: Name of Certification
Type of Certification: Name of Certification

See Section 3 for additional listings.

- ● Self-Published*
- O Third Party Verified

* See HPD website for details

VERIFIER:

VERIFICATION #:

SCREENING DATE:

RELEASE DATE:

EXPIRY DATE*:

* or within 3 months of significant change in product contents

Product Name by Manufacturer's Name
www.producthpdurl.com

HPD v2.0 created via:

Page X of Y

Section 2: Content in Descending Order of Quantity

This section lists materials in a product and the substances in each material based on the Inventory Threshold for each material. If residuals or impurities from the manufacturing or extraction processes are considered for a material, these are inventoried and characterized to the extent described in the Material and/or General Notes. Chemical substances are screened against the HPD Priority Hazard Lists for human and environmental health impacts. Screening is based on best available information; "Not Found" does not necessarily mean there is no potential hazard associated with the product or its contents. More information about Priority Hazard Lists and the GreenScreen can be found online: www.hpd-collaborative.org and www.greenscreenchemicals.org.

MATERIAL NAME

% : HPD URL:

INVTHRESHOLD: RESIDUALS/IMPURITIES:

MATERIAL NOTES:

SUBSTANCE NAME

ID: XXXX-XX-X

%: GS: RC: NANO: ROLE:

HAZARDS: AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID:

%: GS: RC: NANO: ROLE:

HAZARDS: AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

SUBSTANCE NAME

ID:

%: GS: RC: NANO: ROLE:

HAZARDS: AGENCY(IES) WITH WARNINGS:

SUBSTANCE NOTES:

RESIDUAL OR IMPURITY

ID:

%: 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 Classification 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 Unspecified (insufficient 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)
UNK 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

Nano Composed of nanoscale particles or nanotechnology

Declaration Level

Self-declared Manufacturer's self-declaration (First Party)
Independent Lab Manufacturer's self-declaration using results from an independent lab
Second Party Verification by trade association or other interested party
Third Party Verification by independent certifier
Applicable facilities Manufacturing sites to which testing applies

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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 does not provide an assessment of health impacts throughout the product life cycle. It does not provide an assessment of exposure or risk associated with product handling or use. It also does not address potential health impacts of: (i) substances used or created during the manufacturing process unless they remain in the final product, or (ii) substances created after the product is delivered for end use (e.g., if the product burns, degrades, or otherwise changes chemical composition).

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.

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

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 (http://www.cleanproduction.org/Greenscreen.php). All lists in the GreenScreen v1.2 List Translator are included that have any of the following GreenScreen Benchmark or Hazard indicators:

- ***Benchmark Score*** of Benchmark 1 or Possible Benchmark 1. 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). Authoritative lists only. 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. Authoritative lists only. 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
- 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

Agency & List Title	Agency/List Abbreviation	Full List Title	Hazard Issuing Agency
AOEC - Asthmagens	AOEC	AOEC Exposure Codes - Asthmagen List	Association of Occupational and Environmental Clinics
Environment Canada - Domestic Substances List	DSL	Canadian Environmental Protection Act (CEPA) - Environmental Registry - Domestic Substances List (DSL)	Environment Canada & Health Canada
US EPA - PPT Chemical Action Plans	EPA Action	Chemicals of Concern Action Plans	US Environmental Protection Agency
US EPA - PPT Priority PBTs	EPA PBT	Priority PBT Profiles	US Environmental Protection Agency
US EPA - IRIS Carcinogens	EPA-C	Integrated Risk Information System Database (IRIS)	US Environmental Protection Agency
US EPA - Global Warming Potentials	EPA-GW	Global Warming Potentials of Ozone Depletors and Substitutes	US Environmental Protection Agency
US EPA - Ozone Depleting Substances	EPA-ODS	Ozone-Depleting Substances (ODS) Class I & Class II	US Environmental Protection Agency
EC - REACH Annex XVII	EU CMR(1)	Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) Dangerous Substances Directive (DSD) REACH Annex XVII	European Commission
EC - CLP/GHS CMR Statements	EU CMR(2)	Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) CMR GHS Categories	European Commission
EC - Priority Endocrine Disrupters	EU ED	EU Community Strategy for Endocrine Disrupters - Priority List	European Commission
EC - CLP/GHS Hazard Statements	EU H-Statements	Regulation on the Classification, Labelling & Packaging of Substances & Mixtures (CLP) Annex 6 Table 3-1 - GHS Hazard code criteria	European Commission
EC - Ozone depletion substances	EU Ozone	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 Commission
EC - ESIS-PBT System	EU PBT	European chemical Substances Information System (ESIS) - PBT List	European Commission
EC - Risk Phrases	EU R-Phrases	Substances with EU Risk & Safety Phrases (Commission Directive 67-548-EEC)	European Commission
EC - REACH Substances of High Concern	EU SVHC	Substances of Very High Concern for authorisation - REACH Annex XIV	European Commission
Lancet - Grandjean & Landrigan Neurotoxic Chemicals	G&L Neuro	Developmental neurotoxicity of industrial chemicals, List of 201 Chemicals known to be neurotoxic in man	Lancet: authors Philippe Grandjean & Phil Landrigan
Intnl Agency for Rsrch on Cancer - Cancer Monographs	IARC	Monographs On the Evaluation of Carcinogenic Risks to Humans	International Agency for Research on Cancer, World Health Organization
German MAK - List of Substances (MAK)	MAK	Occupational Toxicants and MAK Values: Annual Thresholds and Classifications for the Workplace	MAK Commission of Germany
US CDC - Occupational Carcinogens	NIOSH-C	NIOSH Carcinogen List	US Centers for Disease Control, National Institute

Agency & List Title	Agency/List Abbreviation	Full List Title	Hazard Issuing Agency
			of Occupational Safety and Health
US NIH - Reproductive & Developmental Monographs	NTP-OHAaT	Expert Panel Reports & Monographs on Reproductive and Developmental Toxicity	US Dept of Health & Human Services, National Toxicology Program (NTP), Office of Health Assessment and Translation
US NIH - Report on Carcinogens	NTP-RoC	National Toxicology Program (NTP) 12th Report on Carcinogens	US Dept of Health & Human Services
US EPA - Priority PBTs	NWMP Priority	National Waste Minimization Program Priority Chemicals List	US Environmental Protection Agency
Oregon DEQ - Priority Persistent Pollutants	OR P3	Priority Persistent Pollutant (P3) List	State of Oregon Department of Environmental Quality
EC/Oslo-Paris Conv - Priority PBTs & EDs & equivalent concern	OSPAR	OSPAR Convention For The Protection of the Marine Environment of the North-East Atlantic Chemical Lists of Priority Action & Possible Concern	Oslo-Paris Convention Commission
Cal/EPA - Chemicals Known to Cause Cancer & Reproductive Toxicity	Prop 65	Chemicals Known to the State to Cause Cancer or Reproductive Toxicity - California Proposition 65	State of California Environmental Protection Agency
EHP - San Antonio Statement on BFRs & CFRs	San Antonio	San Antonio Statement on Brominated and Chlorinated Flame Retardants	Environmental Health Perspectives
ChemSec - Substitute List	SIN	SIN (Substitute It Now) List	ChemSec, The International Chemical Secretariat
UNEP Stockholm Conv - Persistent Organic Pollutants	Stockholm	Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex A, B & C and under Review	United Nations Environment Programme
TEDX - Potential Endocrine Disruptors	TEDX	TEDX List of Potential Endocrine Disruptors	The Endocrine Disruption Exchange (TEDX)
US EPA - Toxics Release Inventory PBTs	TRI PBT	TRI PBT Chemical List	US Environmental Protection Agency
German FEA - Substances Hazardous to Waters	VwVwS	Administrative Regulation on the Classification of Substances hazardous to waters	German Federal Environment Agency
Washington DoE - PBT	WA PBT	Chapter 173-333 WAC Persistent Bioaccumulative Toxins	State of Washington Department of Ecology

Appendix E: HPD Priority List Warnings

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
AOEC	Respiratory	Asthmagen (AG) - generally accepted	LT-UNK	Respiratory Sensitization	Authoritative	H, M, or L	Group II* Human
AOEC	Respiratory	Asthmagen (ARr) - irritant-induced	LT-UNK	Respiratory Sensitization	Authoritative	H or M	Group II* Human
AOEC	Respiratory	Asthmagen (ARrs) - sensitizer-induced & irritant-induced	LT-UNK	Respiratory Sensitization	Authoritative	H or M	Group II* Human
AOEC	Respiratory	Asthmagen (ARs) - sensitizer-induced	LT-UNK	Respiratory Sensitization	Authoritative	H or M	Group II* Human
DSL	PBT	Persistent, Bioaccumulative and inherently Toxic (PBiT) to aquatic organisms	LT-P1	PBT [Persistence, Bioaccumulation, and any of the following: Acute Aquatic Toxicity, Chronic Aquatic Toxicity, Carcinogenicity, Mutagenicity, Reproductive Toxicity, Developmental Toxicity, Systemic Toxicity/Organ Effects-Repeated Exposure.	Screening	U	Multiple
DSL	PBT	Persistent, Bioaccumulative and inherently Toxic (PBiT) to humans	LT-P1	PBT [Persistence, Bioaccumulation and Human Toxicity (Human Health Effects)]	Screening	U	Multiple
EPA Action	Multiple	EPA Chemical of Concern - Action Plan published	not assessed by GreenScreen				
EPA Action	Multiple	TSCA Work Plan chemical - Action Plan in development	not assessed by GreenScreen				
EPA Action	Multiple	TSCA Work Plan chemical - planned for assessment	not assessed by GreenScreen				
EPA PBT	PBT	Priority PBT	LT-1	PBT [Persistence, Bioaccumulation and any of the following: Ecotoxicity, Carcinogenicity, Mutagenicity, Reproductive Toxicity, Developmental Toxicity, Neurotoxicity, Other chronic effects, or effects from site releases]	Authoritative	U	Multiple
EPA-C	Cancer	1986 Group A - Human carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	1986 Group B1 - Probable human carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	1986 Group B2 - Probable human carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	1986 Group C - Possible human carcinogen	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
EPA-C	Cancer	1996 Known/likely human carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	1999 Carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	2005 Carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-C	Cancer	2005 Likely to be carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EPA-GW	Global Warming	Global Warming Potential greater than 10,000	not assessed by GreenScreen				

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
EPA-GW	Global Warming	Global Warming Potential greater than 1,000	not assessed by GreenScreen				
EPA-GW	Global Warming	Global Warming Potential greater than 100	not assessed by GreenScreen				
EPA-ODS	Ozone Depletion	Ozone-depleting substances - Class I ODP greater than 0.2	not assessed by GreenScreen				
EPA-ODS	Ozone Depletion	Ozone-depleting substance - Class II ODP less than 0.2	not assessed by GreenScreen				
EU CMR (2)	Cancer	Carcinogen 1A	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU CMR (2)	Cancer	Carcinogen 1B	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU CMR (2)	Cancer	Carcinogen 2	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 1A	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 1B	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 2	LT-UNK	Mutagenicity/Genotoxicity	Authoritative	M	Group I Human
EU CMR (2)	Reproductive	Reproductivity 1A	LT-1	Reproductive and/or Developmental Toxicity	Authoritative	H (R and/or D)	Multiple
EU CMR (2)	Reproductive	Reproductivity 1B	LT-1	Reproductive and/or Developmental Toxicity	Authoritative	H (R and/or D)	Multiple
EU CMR (2)	Reproductive	Reproductivity 2	LT-UNK	Reproductive and/or Developmental Toxicity	Authoritative	M (R and/or D)	Multiple
EU CMR (1)	Cancer	Carcinogen Category 1 - Substances known to be carcinogenic to man	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU CMR (1)	Cancer	Carcinogen Category 2 - Substances which should be regarded as if they are carcinogenic to man	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU CMR (1)	Cancer	Carcinogen Category 3 - Substances which possibly are carcinogenic to humans	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
EU CMR (1)	Gene Mutation	Mutagen Category 1 - Substances known to be mutagenic to man)	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU CMR (1)	Gene Mutation	Mutagen Category 2 - Substances which should be regarded as if they are mutagenic to man	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU CMR (1)	Gene Mutation	Mutagen Category 3 - Substances which possibly are	LT-UNK	Mutagenicity/Genotoxicity	Authoritative	M	Group I Human

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
		mutagenic to humans					
EU CMR (1)	Reproductive	Toxic to Reproduction Category 1 - Substances known to impair fertility or cause developmental toxicity in humans	LT-1	Reproductive and/or Developmental Toxicity	Authoritative	H (R and/or D)	Multiple
EU CMR (1)	Reproductive	Toxic to Reproduction Category 2 - Substances which should be regarded as if they impair fertility or cause developmental toxicity in humans	LT-1	Reproductive and/or Developmental Toxicity	Authoritative	H (R and/or D)	Multiple
EU CMR (1)	Reproductive	Toxic to Reproduction Category 3 - Substances which possibly impair fertility or cause developmental toxicity to humans	LT-UNK	Reproductive and/or Developmental Toxicity	Authoritative	M (R and/or D)	Multiple
EU ED	Endocrine	Category 1 - In vivo evidence of endocrine disruption activity	LT-P1	Endocrine Activity	Screening	H or M	Group I Human
EU ED	Endocrine	Category 2 - In vitro evidence of biological activity related to endocrine disruption	LT-P1	Endocrine Activity	Screening	H or M	Group I Human
EU H-Statements	Ozone Depletion	EUH059: Hazardous to the Ozone Layer	not assessed by GreenScreen				
EU H-Statements	Physical Hazard	H200 Unstable explosive	LT-UNK	Reactivity	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H201 Explosive; mass explosion hazard	LT-UNK	Reactivity	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H202 Explosive, severe projection hazard	LT-UNK	Reactivity	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H203 Explosive; fire, blast or projection hazard	LT-UNK	Reactivity	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H220 Extremely flammable gas.	LT-UNK	Flammability	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H222 Extremely flammable aerosol	LT-UNK	Flammability	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H224 Extremely flammable liquid and vapour	LT-UNK	Flammability	Authoritative	vH	Flammability
EU H-Statements	Physical Hazard	H225 Highly flammable liquid and vapour.	LT-UNK	Flammability	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H228 Flammable solid.	LT-UNK	Flammability	Authoritative	H or M	Flammability
EU H-Statements	Physical Hazard	H240 Heating may cause an explosion	LT-UNK	Reactivity	Authoritative	vH	Reactivity

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
EU H-Statements	Physical Hazard	H241 Heating may cause a fire or explosion	LT-UNK	Reactivity	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H242 "Heating may cause a fire."	LT-UNK	Reactivity	Authoritative	vH, H, or M	Reactivity
EU H-Statements	Physical Hazard	H250 Catches fire spontaneously if exposed to air	LT-UNK	Flammability	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H251 Self-heating: may catch fire	LT-UNK	Reactivity	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H260 In contact with water releases flammable gases which may ignite spontaneously	LT-UNK	Reactivity	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H261 In contact with water releases flammable gases.	LT-UNK	Reactivity	Authoritative	H or M	Reactivity
EU H-Statements	Physical Hazard	H270 May cause or intensify fire; oxidiser. GAS ONLY	LT-UNK	Reactivity	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H271 May cause fire or explosion; strong oxidiser	LT-UNK	Reactivity	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H272 May intensify fire; oxidiser.	LT-UNK	Reactivity	Authoritative	H or M	Reactivity
EU H-Statements	Mammal	H300 Fatal if swallowed	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H301 Toxic if swallowed	LT-UNK	Acute Mammalian Toxicity	Authoritative	H	Group II Human
EU H-Statements	Mammal	H310 Fatal in contact with skin	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H311 Toxic in contact with skin	LT-UNK	Acute Mammalian Toxicity	Authoritative	H	Group II Human
EU H-Statements	Skin or Eye	H314 Causes severe skin burns and eye damage	LT-UNK	Skin Irritation/Corrosivity	Authoritative	vH	Group II Human
EU H-Statements	Skin or Eye	H315 Causes skin irritation	LT-UNK	Skin Irritation/Corrosivity	Authoritative	H	Group II Human
EU H-Statements	Skin or Eye	H317 May cause an allergic skin reaction	LT-UNK	Skin Sensitization	Authoritative	H or M	Group II* Human
EU H-Statements	Skin or Eye	H318 Causes serious eye damage	LT-UNK	Eye Irritation/Corrosivity	Authoritative	vH	Group II* Human
EU H-Statements	Skin or Eye	H319 Causes serious eye irritation	LT-UNK	Eye Irritation/Corrosivity	Authoritative	H	Group II* Human
EU H-Statements	Mammal	H330 Fatal if inhaled	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H331 Toxic if inhaled	LT-UNK	Acute Mammalian Toxicity	Authoritative	H	Group II Human
EU H-Statements	Respiratory	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	LT-UNK	Respiratory Sensitization	Authoritative	H or M	Group II* Human
EU H-Statements	Gene Mutation	H340 May cause genetic defects	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
EU H-Statements	Gene Mutation	H341 Suspected of causing genetic defects	LT-UNK	Mutagenicity/Genotoxicity	Authoritative	M	Group I Human
EU H-Statements	Cancer	H350 May cause cancer	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU H-Statements	Cancer	H350i May cause cancer by inhalation	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU H-Statements	Cancer	H351 Suspected of causing cancer	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
EU H-Statements	Developmental	H360D May damage the unborn child	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU H-Statements	Developmental	H360Df May damage the unborn child. Suspected of damaging fertility	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU H-Statements	Reproductive	H360F May damage fertility	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
EU H-Statements	Reproductive	H360FD May damage fertility. May damage the unborn child.	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU H-Statements	Reproductive	H360Fd May damage fertility. Suspected of damaging the unborn child	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
EU H-Statements	Developmental	H361d Suspected of damaging the unborn child	LT-UNK	Developmental Toxicity	Authoritative	M	Group I Human
EU H-Statements	Reproductive	H361f Suspected of damaging fertility	LT-UNK	Reproductive Toxicity	Authoritative	M	Group I Human
EU H-Statements	Developmental	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child	LT-1	Developmental Toxicity	Authoritative	M	Group I Human
EU H-Statements	Developmental	H362 May cause harm to breast-fed children	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU H-Statements	Mammal	H370 Causes damage to organs	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H371 May cause damage to organs	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	H	Group II Human
EU H-Statements	Mammal	H372 Causes damage to organs through prolonged or repeated exposure	LT-UNK	Systemic Toxicity/Organ Effects (Repeated Exposure)	Authoritative	H	Group II* Human
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life	LT-UNK	Acute Aquatic Toxicity	Authoritative	vH	Ecotoxicity
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 10	LT-UNK				
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 100	LT-UNK				
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 1000	LT-UNK				

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 10000	LT-UNK				
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 100000	LT-UNK				
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 1000000	LT-UNK				
EU H-Statements	Aquatic	H410 - Aquatic Chronic 1 - Very toxic to aquatic life with long lasting effects	LT-P1	T & P and/or B [(Chronic Aquatic Toxicity and sometimes Persistence) or (Acute Aquatic Toxicity and Persistence and/or Bioaccumulation)]	Screening	U	Multiple
EU H-Statements	Aquatic	H411 - Aquatic Chronic 2 - Toxic to aquatic life with long lasting effects	LT-P1	T & P and/or B [(Chronic Aquatic Toxicity and sometimes Persistence) or (Acute Aquatic Toxicity and Persistence and/or Bioaccumulation)]	Screening	U	Multiple
EU Ozone	Ozone Depletion	Annex I Group I, II & II & Annex II-A: Chlorofluorocarbons & Halons; ODP .6 & up	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex I Group IV & VI: Carbon tetrachloride& Methyl Bromide - ODP 0.6 & up)	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex I Group V & IX : Trichloroethane & Bromochloromethane - ODP 0.2 or less	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex I Group VII: Hydrobromofluorocarbons - ODP .3 and up	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex I Group VIII: Hydrochlorofluorocarbons - ODP greater than 0.2	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex I Group VIII: Hydrochlorofluorocarbons - ODP less than 0.2	not assessed by GreenScreen				
EU Ozone	Ozone Depletion	Annex II Part B: substances to be reported under Article 27	not assessed by GreenScreen				
EU PBT	PBT	Fulfilling PBT & vPvB Criteria	LT-1	PBT [Persistence, Bioaccumulation and any of the following: Ecotoxicity and/or Human Toxicity (Human Health Effects)]	Authoritative	U	Multiple
EU PBT	PBT	Fulfilling PBT & vPvB Criteria & POP	LT-1	Persistent Organic Pollutant [Persistence, Bioaccumulation and any of the following: Ecotoxicity and/or Human Toxicity (Human Health Effects)]	Authoritative	U	Multiple
EU PBT	PBT	Fulfilling PBT Criteria	LT-1	vPvB [Persistence, Bioaccumulation]	Authoritative	U	Multiple

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
EU PBT	PBT	Fulfilling PBT criteria - action Deferred	LT-1				
EU PBT	PBT	Fulfilling PBT Criteria & POP	LT-1				
EU PBT	PBT	Fulfilling POP Criteria	LT-1				
EU PBT	PBT	Fulfilling vPvB Criteria	LT-1				
EU R-Phrases	Mammal	R01 Explosive when dry.	LT-UNK	Reactivity	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R06 Explosive with or without contact with air.	LT-UNK	Reactivity	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R07 May cause fire.	LT-UNK	Reactivity	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R09 Explosive when mixed with combustible material.	LT-UNK	Reactivity	Authoritative	vH	Reactivity
EU R-Phrases	Mammal	R10 Flammable. LIQUID	LT-UNK	Flammability	Authoritative	vH, H, or M	Flammability
EU R-Phrases	Mammal	R11 Highly flammable.; LIQUID	LT-UNK	Flammability	Authoritative	vH or H	Flammability
EU R-Phrases	Mammal	R12 Gas only	LT-UNK	Flammability	Authoritative	H or M	Flammability
EU R-Phrases	Mammal	R15 Contact with water liberates extremely flammable gases.	LT-UNK	Reactivity	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R17 Spontaneously flammable in air.; LIQUID	LT-UNK	Flammability	Authoritative	H	Flammability
EU R-Phrases	Mammal	R20 Harmful by Inhalation (gas or vapor or dust/mist)	LT-UNK	Acute Mammalian Toxicity	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R21 Harmful in Contact with Skin	LT-UNK	Acute Mammalian Toxicity	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R22 Harmful if Swallowed	LT-UNK	Acute Mammalian Toxicity	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R23 Toxic by Inhalation (gas, vapour, dust/mist);	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R24 Toxic in Contact with Skin	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R25 Toxic if Swallowed	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R26: Very toxic by inhalation	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R27: Very toxic in contact with skin.	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R28: Very toxic if swallowed.	LT-UNK	Acute Mammalian Toxicity	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R34 Causes burns	LT-UNK	Skin Irritation/Corrosivity	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R35 Causes severe burns	LT-UNK	Skin Irritation/Corrosivity	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R36 Irritating to eyes	LT-UNK	Eye Irritation/Corrosivity	Authoritative	H or M	Group II* Human
EU R-Phrases	Skin or Eye	R38 Irritating to skin	LT-UNK	Skin Irritation/Corrosivity	Authoritative	H	Group II Human
EU R-Phrases	Mammal	R39/23 Toxic: Danger of very serious irreversible effects through inhalation.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/24 Toxic: Danger of very serious irreversible	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
		effects in contact with skin.					
EU R-Phrases	Mammal	R39/25 Toxic: Danger of very serious irreversible effects if swallowed.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/26 Very Toxic: Danger of very serious irreversible effects through inhalation.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/27 Very Toxic: Danger of very serious irreversible effects in contact with skin.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/28 Very Toxic: Danger of very serious irreversible effects if swallowed.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39: Danger of very serious irreversible effects.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	vH	Group II Human
EU R-Phrases	Cancer	R40: Limited evidence of a carcinogenic effect	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
EU R-Phrases	Skin or Eye	R41 Risk of serious damage to eyes	LT-UNK	Eye Irritation/Corrosivity	Authoritative	vH	Group II* Human
EU R-Phrases	Respiratory	R42 May cause sensitization by inhalation	LT-UNK	Respiratory Sensitization	Authoritative	H or M	Group II* Human
EU R-Phrases	Skin or Eye	R43 May cause sensitization by skin contact	LT-UNK	Skin Sensitization	Authoritative	H or M	Group II* Human
EU R-Phrases	Cancer	R45: May cause cancer.	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU R-Phrases	Gene Mutation	R46: May cause heritable genetic damage.	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU R-Phrases	Reproductive	R47: May cause birth defects.	not assessed by GreenScreen				
EU R-Phrases	Mammal	R48/23 Toxic: Danger of Serious Damage to health by prolonged exposure through inhalation.	LT-UNK	Systemic Toxicity/Organ Effects (Repeated Exposure)	Authoritative	H	Group II* Human
EU R-Phrases	Mammal	R48/24 Toxic: Danger of Serious Damage to health by prolonged exposure in contact with skin.	LT-UNK	Systemic Toxicity/Organ Effects (Repeated Exposure)	Authoritative	H	Group II* Human
EU R-Phrases	Mammal	R48/25 Toxic: Danger of Serious Damage to health by prolonged exposure if swallowed.	LT-UNK	Systemic Toxicity/Organ Effects (Repeated Exposure)	Authoritative	H	Group II* Human
EU R-Phrases	Cancer	R49: May cause cancer by inhalation.	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU R-Phrases	Aquatic	R50: Very toxic to aquatic organisms.	LT-UNK	Acute Aquatic Toxicity	Authoritative	vH	Ecotoxicity
EU R-Phrases	Aquatic	R51/53 Toxic to Aquatic Organisms, May cause long-term adverse effects in the	LT-UNK	Acute Aquatic Toxicity	Authoritative	H	Ecotoxicity

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
		aquatic environment					
EU R-Phrases	Aquatic	R51/53 Toxic to Aquatic Organisms, May cause long-term adverse effects in the aquatic environment	LT-P1	T & P and/or B [Chronic Aquatic Toxicity and sometimes Persistence) or (Acute Aquatic Toxicity and Persistence and/or Bioaccumulation)]	Authoritative	U	Multiple
EU R-Phrases	Aquatic	R51: Toxic to aquatic organisms.	LT-UNK	Acute Aquatic Toxicity	Authoritative	H or M	Ecotoxicity
EU R-Phrases	Aquatic	R52 Harmful to Aquatic Organisms	LT-UNK	Acute Aquatic Toxicity	Authoritative	H or M	Ecotoxicity
EU R-Phrases	Land Toxicity	R54 Toxic to flora.	LT-UNK	Ecotoxicity	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R55 Toxic to fauna.	LT-UNK	Ecotoxicity	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R56 Toxic to soil organisms.	LT-UNK	Ecotoxicity	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R57 Toxic to soil organisms.	LT-UNK	Ecotoxicity	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Ozone Depletion	R59: Dangerous for the ozone layer.	not assessed by GreenScreen				
EU R-Phrases	Reproductive	R60: May impair fertility.	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
EU R-Phrases	Developmental	R61: May cause harm to the unborn child.	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU R-Phrases	Reproductive	R62: Possible risk of impaired fertility.	LT-UNK	Reproductive Toxicity	Authoritative	M	Group I Human
EU R-Phrases	Developmental	R63: Possible risk of harm to the unborn child.	LT-UNK	Developmental Toxicity	Authoritative	M	Group I Human
EU R-Phrases	Developmental	R64: May cause harm to breastfed babies.	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
EU R-Phrases	Mammal	R68/20 Harmful: Possible risk of irreversible effects through inhalation.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	H	Group II Human
EU R-Phrases	Mammal	R68/21 Harmful: Possible risk of irreversible effects in contact with skin.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	H	Group II Human
EU R-Phrases	Mammal	R68/22 Harmful: Possible risk of irreversible effects if swallowed.	LT-UNK	Systemic Toxicity/Organ Effects (Single Exposure)	Authoritative	H	Group II Human
EU R-Phrases	Gene Mutation	R68: Possible risk of irreversible effects	LT-UNK	Mutagenicity/Genotoxicity	Authoritative	M	Group I Human
EU SVHC	Cancer	Carcinogenic - Banned unless authorized	LT-1	Carcinogenicity	Authoritative	H	Group I Human
EU SVHC	Cancer	Carcinogenic - Candidate list	in consideration for GreenScreen				
EU SVHC	Cancer	Carcinogenic - Prioritized for listing	in consideration for GreenScreen				
EU SVHC	Gene Mutation	Mutagenic - Banned unless authorized	LT-1	Mutagenicity/Genotoxicity	Authoritative	H	Group I Human
EU SVHC	Gene Mutation	Mutagenic - Candidate list	in consideration for GreenScreen				
EU SVHC	Gene Mutation	Mutagenic - Prioritized for listing	in consideration				

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
			for GreenScreen				
EU SVHC	PBT	PBT - Banned unless authorized	LT-1	PBT [Persistence, Bioaccumulation, and any of the following: Acute Aquatic Toxicity, Chronic Aquatic Toxicity, Carcinogenicity, Mutagenicity, Reproductive Toxicity, Developmental Toxicity]	Authoritative	U	Multiple
EU SVHC	PBT	PBT - Candidate List	in consideration for GreenScreen				
EU SVHC	PBT	PBT - Candidate List Prioritized	in consideration for GreenScreen				
EU SVHC	Reproductive	Toxic to reproduction - Banned unless authorized	LT-1	Reproductive and/or Developmental Toxicity	Authoritative	H (R and/or D)	Multiple
EU SVHC	Reproductive	Toxic to reproduction - Candidate list	in consideration for GreenScreen				
EU SVHC	Reproductive	Toxic to reproduction - Candidate List Prioritized	in consideration for GreenScreen				
EU SVHC	PBT	vPvB - Banned unless authorized	LT-1	vPvB [Persistence, Bioaccumulation]	Authoritative	U	Multiple
EU SVHC	PBT	vPvB - Candidate List	in consideration for GreenScreen				
EU SVHC	PBT	vPvB - Candidate List Prioritized	in consideration for GreenScreen				
G&L Neuro	Developmental	Developmental neurotoxicant	LT-P1	Developmental Toxicity	Screening	H or M	Group I Human
IARC	Cancer	Group 1: Agent is carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	H	Group I Human
IARC	Cancer	Group 2A: Agent is probably carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	H	Group I Human
IARC	Cancer	Group 2B: Possibly carcinogenic to humans	LT-1	Carcinogenicity	Authoritative	M	Group I Human
MAK	Cancer	Carcinogenic Group 1	LT-1	Carcinogenicity	Authoritative	H	Group I Human
MAK	Cancer	Carcinogenic Group 2	LT-1	Carcinogenicity	Authoritative	H	Group I Human
MAK	Cancer	Carcinogenic Group 3	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
MAK	Cancer	Carcinogenic Group 4	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
MAK	Cancer	Carcinogenic Group 5	LT-UNK	Carcinogenicity	Authoritative	M	Group I Human
MAK	Gene Mutation	Germ Cell Mutagen 1	LT-P1	Mutagenicity/Genotoxicity	Authoritative	H or M	Group I Human
MAK	Gene Mutation	Germ Cell Mutagen 2	LT-P1	Mutagenicity/Genotoxicity	Authoritative	H or M	Group I Human
MAK	Gene Mutation	Germ Cell Mutagen 3a	LT-P1	Mutagenicity/Genotoxicity	Authoritative	H or M	Group I Human
MAK	Developmental	Pregnancy Risk Group A	LT-P1	Developmental Toxicity	Authoritative	H or M	Group I Human

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
MAK	Developmental	Pregnancy Risk Group B	LT-P1	Developmental Toxicity	Authoritative	H or M	Group I Human
MAK	Respiratory	Sensitizing Substance Sa - Danger of airway sensitization	LT-UNK	Respiratory Sensitization	Authoritative	H	Group II* Human
MAK	Respiratory	Sensitizing Substance Sah - Danger of airway & skin sensitization	LT-UNK	Respiratory and Skin Sensitization	Authoritative	H (SnS and SnR)	Multiple
MAK	Skin or Eye	Sensitizing Substance Sh - Danger of skin sensitization	LT-UNK	Skin Sensitization	Authoritative	H	Group II* Human
MAK	Skin or Eye	Sensitizing Substance SP - Danger of photocontact sensitization	LT-UNK	Skin and/or Respiratory Sensitization	Authoritative	H (SnS and/or SnR)	Multiple
NIOSH-C	Cancer	Occupational carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
NTP-OHAaT	Developmental	A-Clear evidence of adverse developmental toxicant effects	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
NTP-OHAaT	Reproductive	A-Clear evidence of adverse reproductive toxicant effects	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
NTP-OHAaT	Developmental	B-Some evidence of adverse developmental toxicant effects	LT-P1	Developmental Toxicity	Authoritative	H or M	Group I Human
NTP-OHAaT	Reproductive	B-Some evidence of adverse reproductive toxicant effects	LT-P1	Reproductive Toxicity	Authoritative	H or M	Group I Human
NTP-OHAaT	Developmental	C-Limited evidence of adverse developmental toxicant effects	LT-P1	Developmental Toxicity	Authoritative	H or M	Group I Human
NTP-OHAaT	Reproductive	C-Limited evidence of adverse reproductive toxicant effects	LT-P1	Reproductive Toxicity	Authoritative	H or M	Group I Human
NTP-RoC	Cancer	Known to be Human Carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
NTP-RoC	Cancer	Reasonably Anticipated to be Human Carcinogen	LT-1	Carcinogenicity	Authoritative	H	Group I Human
NWMP Priority	PBT	Priority PBT	LT-1	PBT [Persistence, Bioaccumulation and any of the following: Ecotox and/or Human Toxicity (Human Health Effects)]	Authoritative	U	Multiple
OR P3	PBT	Priority Persistent Pollutant - Tier 1	LT-P1	PBT [Persistence, Bioaccumulation and any of the following: Ecotox and/or Human Toxicity (Human Health Effects)]	Screening	U	Multiple
OR P3	PBT	Priority Persistent Pollutant - Tier 2 - Legacy Persistent Pollutants	LT-P1		Screening	U	Multiple
OSPAR	Endocrine	Endocrine disruptor - Substance of Possible Concern	LT-P1	Endocrine Activity	Screening	H or M	Group I Human
OSPAR	Endocrine	Endocrine disruptor - Chemical for Priority Action	LT-P1	PBT [Persistence, Bioaccumulation, and any of the following: Acute Aquatic Toxicity, Chronic Aquatic Toxicity,	Screening	H or M	Group I Human

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
				Carcinogenicity, Mutagenicity, Reproductive Toxicity, Developmental Toxicity, Systemic Toxicity/Organ Effects repeated exposure)]			
OSPAR	PBT	PBT - Substance of Possible Concern	LT-1		Authoritative	U	Multiple
OSPAR	PBT	PBT- Chemical for Priority Action	LT-1		Authoritative	U	Multiple
Prop 65	Cancer	Cancer	LT-1	Carcinogenicity	Authoritative	H	Group I Human
Prop 65	Developmental	Developmental toxicity	LT-1	Developmental Toxicity	Authoritative	H	Group I Human
Prop 65	Reproductive	Female reproductive toxicity	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
Prop 65	Reproductive	Male reproductive toxicity	LT-1	Reproductive Toxicity	Authoritative	H	Group I Human
San Antonio	PBT	Flame retardant substance class of concern for PB&T & long range transport	LT-1				
SIN	Multiple	Classified CMR (Carcinogen, Mutagen &/or Reproductive Toxicant)	LT-P1	One or more of the following: Carcinogenicity, Mutagenicity, Reproductive Toxicity, Developmental Toxicity.	Screening	U	Multiple
SIN	Endocrine	Equivalent concern, including endocrine disruption - Sin List 1.0	LT-P1	Endocrine Activity	Screening	H or M	Group I Human
SIN	Endocrine	Equivalent concern, including endocrine disruption - Sin List 2.0	LT-P1		Screening	H or M	Group I Human
SIN	PBT	PBT	LT-P1	PBT [Persistence, Bioaccumulation and any of the following: Ecotoxicity and/or Human Toxicity (Human Health Effects)]	Screening	U	Multiple
SIN	PBT	vPvB	LT-P1	Persistence and Bioaccumulation	Screening	U	Multiple
Stockholm	PBT	Priority Persistent Organic Pollutant (POP)	LT-1		Authoritative	U	Multiple
Stockholm	PBT	May degrade to PFOS - PBT under review	LT-1		Authoritative	U	Multiple
Stockholm	PBT	Persistent Organic Pollutant (POP) - under review	LT-1	PBT [Persistence, Bioaccumulation and any of the following: Ecotoxicity and/or Human Toxicity (Human Health Effects)]	Authoritative	U	Multiple
TEDX	Endocrine	Potential Endocrine Disruptor	LT-P1	Endocrine Activity	Screening	H or M	Group I Human
TRI PBT	PBT	PBT	LT-1	PBT [Persistence, Bioaccumulation, and Acute Aquatic Toxicity]	Authoritative	U	Multiple
VwVwS	Multiple	Class 2 Hazard to Waters	LT-P1	Any combination of the following: Acute Mammalian Toxicity, Systemic Toxicity/Organ Effects, Carcinogenicity, Reproductive Toxicity, Developmental Toxicity, Acute Aquatic Toxicity, Chronic Aquatic Toxicity, Persistence, Bioaccumulation.	Screening	U	Multiple

Agency List Abbrv	Hazard Type	Hazard Warning	GS LT score	Green Screen Hazard	GS List Type	GS Hazard Range	GreenScreen Group
VwVwS	Multiple	Class 3 Severe Hazard to Waters	LT-P1	Any combination of the following: Acute Mammalian Toxicity, Systemic Toxicity/Organ Effects, Carcinogenicity, Reproductive Toxicity, Developmental Toxicity, Acute Aquatic Toxicity, Chronic Aquatic Toxicity, Persistence, Bioaccumulation.	Screening	U	Multiple
WA PBT	PBT	PBT	LT-P1	PBT [Persistence, Bioaccumulation and any of the following: Ecotoxicity and/or Human Toxicity (Human Health Effects)]	Screening	U	Multiple

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 1.1.[23]

Interior Products as per CDPH: These are products used in the interior of a building for which the CDPH Standard Method v1.1 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 1.1 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[24]. 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[25].

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

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

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