Manufacturer User Guide: Using Health Product Declaration® (HPD) Open Standard, version 2.3

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Health Product Declaration Collaborative
www.hpd-collaborative.org

Manufacturer Guide to the HPD® Open Standard version 2.3

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About this Guide

This Guide was written for manufacturers and reflects the practices of reporting, disclosure, and transparency to support the use of material health information in the design, development, selection, and specification of building products, from the manufacturer's perspective. It is designed to assist the people who create HPDs:

- To understand the benefits of reporting ingredient and associated health information,
- To understand processes that will help you report information about your products in compliance with the HPD Open Standard, and
- To be able to gather and report the required information successfully and efficiently.

The Guide recognizes that working with information on chemical-level ingredients and health is new territory for many manufacturers and that most manufacturers don't have staff toxicologists, industrial hygienists, and other experts to help you navigate this new territory. While the Guide isn't intended to replace this expertise, it will help manufacturers better understand the HPD Open Standard and how to meet these requirements.

The Guide is not intended to replace the HPD Open Standard (download the full standard free here). The Instructions in the Standard are the authoritative source for detailed guidance on each data field to be completed – *what* is to be reported. The Guide does not repeat this information but instead suggests *processes and steps* that will help you create your HPDs. Because our understanding of these processes and the resources available is evolving rapidly, the Guide provides basic information with links to resources on the Health Product Declaration Collaborative (HPDC) website that will evolve along with the market.

The Standard answers many questions and provides guidance on how to use the HPD when your product or data seems to vary from what's presented in the Standard Instructions. The Guide gives you an overview of the Standard, how it's organized, and how to find answers to your questions. We encourage you to become familiar with the Standard so you can turn to it along with the other resources provided by HPDC and other experts.

This Guide is not intended to replace the HPD Open Standard and its instructions. The Standard is the authoritative source for detailed guidance. We encourage you to become familiar with it.

The Guide is organized into the following chapters:

1. *Introduction* – What is the HPD Open Standard? How has it evolved? What's new in HPD v2.3?
2. *About the Standard and How to Use It* – What's in the Standard? How do I find specific guidance? Why is this Guide needed? What are the key concepts I need to understand?
3. *Creating an HPD – Process Recommendations* – What is the overall process? What decisions do I have to make? How do I gather the information from various sources? How do I use the Builder? How do I overcome problems and issues?
4. *Case Studies and Examples* – Where can I find samples of HPDs? Where can I hear how other manufacturers have handled this process and learn from them?

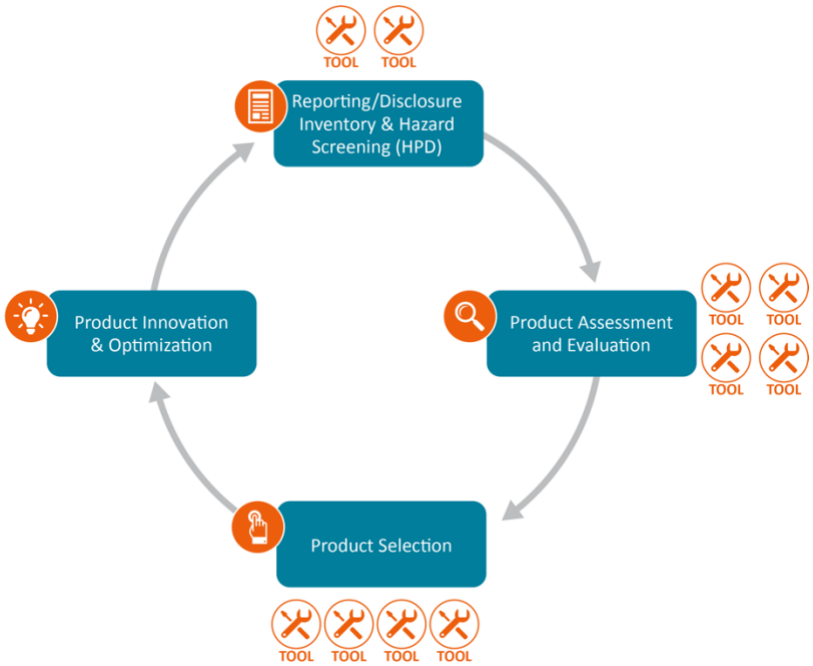
This version of the Guide is based on version 2.3 of the HPD Open Standard. As the Standard is updated and revised periodically, the Guide will also be updated.

1. Introduction

The **HPD Open Standard** is a voluntary technical specification for reporting information on product contents and associated health information. Developed by a coalition of architects, designers, specifiers, owners, manufacturers, contractors, materials researchers, and non-governmental organizations (NGOs), the HPD Open Standard is a key element in the movement toward achieving greater transparency and disclosure in reporting the human and environmental health aspects of building products and materials.

Ultimately, the goal of transparency and disclosure is product innovation, improvement, and optimization – enabling the open collaboration of voluntary market participants to enhance the healthfulness of materials used in the built environment. The rewards of participation can accrue to all. For building owners and designers, an HPD provides the data needed for product selection incorporating health considerations. For manufacturers, this same information can inform product design. As disclosure takes place, and products are developed that have superior health characteristics, HPDs enable these efforts to be publicly known – and rewarded – by those who make decisions about product specification and procurement.

Creating an HPD, which is the responsibility of the product manufacturer, is the first step in this process. The HPD provides accurate, consistent, and reliable reporting of the basic information that opens the door to the collaborative process. Project teams play a key role in a collaborative process of innovation – bringing together customers and manufacturers. In requesting and then using an HPD, project teams can set a "virtuous cycle" in motion. With access to health-related information disclosed in HPDs, project teams can give preference to products for which such information is available.



How does the HPD Open Standard work – what does it do?

- The HPD Open Standard is a voluntary technical specification for reporting data about product contents and associated health information.
- It provides detailed technical specifications – **Format** and **Instructions** – for reporting data about the attributes of a product, as delivered to the job site.
- It defines how to report screening of the product contents, using authoritative lists of hazards and other information that is valuable for further analysis and assessment of health-related questions.
- It allows for reporting of any additional information, not explicitly specified in the Format, that the manufacturer wishes to provide about a product. This can include additional health-related information, such as exposure and/or risk assessments.
- It provides a single reporting format that is accepted as documentation to meet the requirements of various certification systems, standards, and assessment tools, including LEED™, WELL®, and Cradle to Cradle™, and using the HPD Builder, manufacturers will be able to choose to automatically share data with other tools.
- By providing a common standard for reporting across products and product categories, it reduces duplication of effort and conflicting requirements for manufacturers and enables decision-makers to directly compare information from different products.
- It enables manufacturers to disclose information to the level you choose or based on the information you have – from meeting minimum requirements to full disclosure and transparency at a high degree of granularity.
- It assists manufacturers and users in the design community to use a common language and database to discuss improving and optimizing products from a health perspective.
- It is managed and supported by the HPD Collaborative (HPDC), a nonprofit member organization representing a large and growing cross-section of building industry participants. The HPDC's standard development process ensures that all perspectives are represented and that the HPD Open Standard is an evolving standard that will incorporate reporting for new health-related data as it becomes available.

What does the HPD Open Standard not do?

- It is not a certification or label – it is a *standard* specification for how to report information about product contents and associated health information.
- It does not assess or certify products, materials, or substances; in this way, it is different from certifications such as Cradle to Cradle, Declare, etc.
- It is not an assessment of product performance.
- It is not a life-cycle assessment, or an Environmental Product Declaration (EPD).
- It does not identify whether a product is "better" or "worse" than another.

What makes an HPD a "good" HPD?

- The quality of an HPD is judged by the completeness and accuracy of the information provided. The HPD Open Standard provides technical specifications for the Format and Instructions on how to complete an HPD. A "good HPD" complies with the technical specifications defined by the HPD Open Standard.

- An HPD is often used as a reporting tool to document compliance with credits or criteria in one or more certifications, such as the LEED v4.1 Material Ingredients credit, for example. To provide a "good HPD" for such purposes, the creator of the HPD needs to ensure that the information reported meets the criteria for the certification. The definitive guide for compliance is always the issuing organization's own documents.
- The HPD Open Standard provides you with a defined, standardized methodology to report at higher levels of disclosure – and more stringent thresholds – than may be required for a given certification. You may also choose to include additional information in the Notes sections. And you can show support for transparency by publishing your HPDs in the HPD Public Repository. The Repository is the authoritative source for published HPDs.

How did the HPD Open Standard Evolve?

The HPD Open Standard has evolved since it was first created. This evolution has been the result of feedback from manufacturers and project teams, as well as the evolution of the "ecosystem" in which the HPD operates. The HPDC guides this evolution via its Technical Committee and Board of Directors through an open, stakeholder standards development process.

HPD Version 1.0 was introduced at Greenbuild 2012. Then in 2013, LEED approved the HPD as a method for achieving the Material Ingredients credit in LEED v4. Based on feedback from manufacturers and users, work began on Version 2.0. HPD v2.0 came out in September 2015. It was intended to clarify requirements and to reflect the ability of manufacturers to respond to these requirements. It also was designed to harmonize with other related tools, such as Cradle to Cradle. It was followed by HPD version 2.1 in 2017. This version focused on further harmonization, especially with LEED v4 requirements. In May 2019, HPD v2.2 was released. It introduced the Supplier HPD that feeds into the manufacturer HPD, providing more transparency and accuracy in the supply chain. HPD v2.2 also offered a new part inventory and standardized the "substance role" field.

The latest HPD version is 2.3, initially released in **May 12, 2022**, and fully implemented in the Builder in **TBD.** Here are some highlights from recent HPD updates.

All versions of the HPD Open Standard comply with LEED version 4. This dates back to May 2017, when HPD 2.1 was released to further harmonize with the LEED v4 Material Ingredients credit and an April 2016 USGBC interpretation of that credit. The interpretation was issued to affirm the use of HPD 2.0 *and subsequent HPD versions* to meet the credit requirements. It also defined an additional method for creating the inventory. The methods for creating a content inventory are based on:

- how *contents* are categorized and listed (for the entire product or for each of the materials that comprise the product)
- how reporting *thresholds* are applied (a single threshold for the entire product or individual thresholds for each material).

Now, you can choose among the following methods

- **Nested Materials Inventory with Material-level Thresholds**. In this method, thresholds are established for each material and these thresholds govern which substances must be listed under each material.
- **Nested Materials Inventory with Product-Level Threshold** (new in HPD 2.1). In this method, a single threshold is established for the product and is used to determine which substances are listed under the various materials.

- **Basic Inventory Method:** contents are reported only at the substance level, regardless of the material structure of the product. A product-level threshold must be used.

Revisions were made in the HPD 2.1 Instructions and Format needed to implement this new method. The Nested and Basic Inventory methods are illustrated below.

Nested Materials Method

Basic Method

HPD 2.1 also introduced a new data field. The LEED Pre-Check Indicator is an optional (selected by the manufacturer) cross-check to determine whether all required fields have been completed and whether basic requirements of the LEED v4 Material Ingredients credit, Options 1 and/or 2, have been met. For example, is the correct threshold, 100 ppm or 1,000 ppm, indicated? Are all contents Characterized, Screened, and Identified as required? This indicator does not assess data quality or the information in the data fields. It does not "verify" that information is accurate. It's just a preliminary scan to help you identify areas of your HPD that might need revision if your HPD is designed to contribute to LEED submittals, and to help project teams quickly identify HPDs that are most likely to contribute to their submittals. In HPD v2.3, the LEED Pre-Check has been updated to reflect LEED version 4.1 criteria.

What's New in HPD v2.3?

The HPD Open Standard was revised from v2.2 to v2.3 to address several specific issues. It's not an overall standard revision. It represents an ongoing, continuous improvement of the HPD Open Standard in response to manufacturers, designers, project teams, partner organizations, and other stakeholders.

The main areas addressed in v2.3 are:

- New Visual Distinguishment of Published and Third-Party Verified HPDs

- Additional Non-Hazard Data Sources Added
- Data Consistency for Special Conditions
- LEED v4.1 Pre-Check

Visual Updates to Highlight Data Quality

Published HPDs are full color

An HPD is a declaration of the manufacturer of product contents and associated health information. Part of what makes any published HPD credible to the users of this data is the manufacturer's usage of the HPD Open Standard's rigorous reporting methodology. The recognized orange-and-blue HPD format is a required part of a published HPD.

In the early days of the HPD, a manufacturer could fill in a blank HPD and simply email it to users who asked for it or publish it on their website. Since the launch of the HPD Public Repository in 2016, there has been a single, authoritative source of all published HPDs. The Repository has an API so that those published HPDs are distributed to materials libraries. HPDC quality-checks all HPDs published to the Repository via the HPD Builder.

HPD v2.3 now requires a visual indicator that distinguishes unpublished or draft HPDs from a published HPD. An unpublished or draft HPD contains a "DRAFT Unpublished HPD" watermark on the document as well as a gray color. A published HPD will contain an orange color.

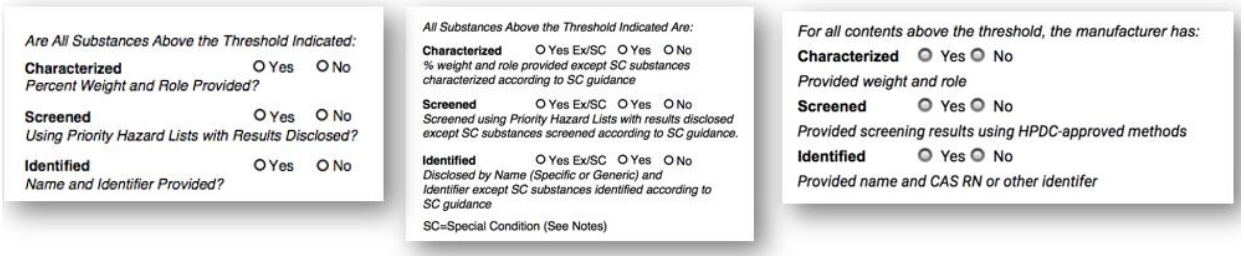
Third-Party Verified Logo

A "Third-Party Verified" logo with a blue checkmark will appear at the top of HPDs that have met the rigorous requirements of HPD's third-party verification program. This promotes the program, in which independent verifiers ensure that HPDs are compliant with the HPD Open Standard. The third-party verified radio button at the bottom of Section 1 also remains.

Indicators for Characterized, Screened, Identified

In, HPD v2.3 indicators have been simplified to show the top-level quality indicators that project teams need to know to understand if the HPD is complete and disclosed. Notation around Special Conditions that was added in HPD v2.1.1 has been removed from the indicators, as these policies have been simplified. Previously, the call out with "Yes Ex/SC" along with "Yes" and "No" led to confusion for users.

From HPD v2.1… to v2.1.1… to v2.3



Data Consistency for Special Condition Policies

The HPD Open Standard introduced Special Conditions in HPD v2.1.1. These policies provide more specific reporting rules for materials added as content to building products. Previously these contents were inventoried using the same processes as chemical substances. HPDC has published Special Conditions policies covering the following:

- Biological Materials
- Geological Materials
- Mixed Recycled Content
- Electronic components
- Form-specific hazards
- Minor Fasteners
- Metal alloys

HPD v2.3 introduces data-entry fields customized to these key building material contents. These updates support automated completeness checks, better data validation, and smarter policies. The update also provides visual consistency with other content in an HPD.

Special Conditions and related policies are published as Best Practices on the HPD website. It is recommended that manufacturers become familiar with these policies in order to understand the full reporting options and requirements that are available.

Increased Material and Substance Data Transparency and Quality

Update to Inventory of Material Content

HPD v2.3 introduces improved features around inventorying material content.

New data entry fields fit better specific kinds of material addressed in HPDC's Special Conditions policies, i.e., wood, stone, mixed recycled content, metal alloys, fasteners, etc.

The result will be that users of HPDs will no longer see confusing notations relating to "SCs" or Special Conditions. And manufacturers can inventory material content with data entry fields that fit the specific kind of material.

A material, by the way, is defined as a uniform solid, liquid, or gas composed of one or more substances and/or materials. HPD v2.3 maintains a structure called Nested Materials to inventory this kind of material. However, previously this format recognized substances, i.e., chemicals, as the basic ingredients of products. Some Nested Materials, such as plastics, can be completely inventoried by their chemical substances, one CAS RN at a time. However, materials (note the small "m" here) such as the ones noted above with Special Conditions, can also be considered as content in a Nested Material.

For example, wood dust is a material. Add to that material a few substances such as phenol formaldehyde and you have fiberboard. Fiberboard could be the main product inventoried on an HPD. Or it could be a Nested Material that is inventoried alongside other Nested Materials such as a metal frame to make a table, which could be the product reported on the HPD.

Either way, HPD v2.3 gives manufacturers streamlined options to enter materials as content and add them to Nested Materials. HPD v2.3 also includes more automated and thorough compliance checks for this data entry, which improves the support to manufacturers and improves the quality of published HPDs.

Multiple Products with Content Differences Greater than 10%

Normally multiple products can be listed on one HPD when they have identical content, or the content differences between the products or product types account for 10% or less of the total mass of each product.

HPD v2.3 recognizes practical situations in building product manufacturing when that upper limit can be removed.

Alternate Materials and Substances

Previously in HPD v2.2, it was common for substances or materials marked as "Alternate" to be listed with large %weight ranges, which caused confusion because there is an assumption that an alternate ingredient would have the same %weight as its primary ingredient, but the formulations may be more complex.

In v2.3, the actual %weight must be listed for the "Alternates." An annotation "ALT" or "ALTERNATE" is added to the %weight field. Listing rules in v2.2 will continue into v2.3 where an "Alternate" will not appear in the Summary of Contents or other HPD summary sections.

HPD v2.2:

POLYVINYL CHLORIDE (PVC) ID: 9002-86-2

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-08-08**

%: **0%–12%** GREENSCREEN: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced

SUBSTANCE NOTES:

HPD v2.3:

POLYVINYL CHLORIDE (PVC) ID: 9002-86-2

HAZARD DATA SOURCE: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-08-08**

%: **10%–12% ALT** GREENSCREEN: **LT-P1** RC: **None** NANO: **No** SUBSTANCE ROLE: **Binder**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced

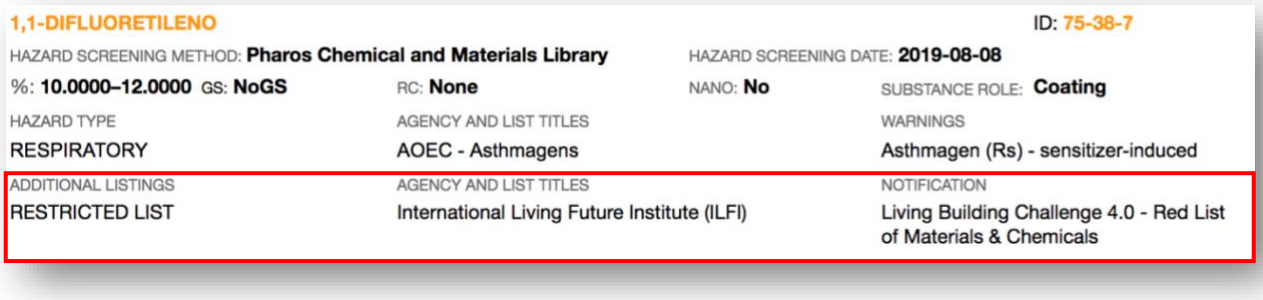
SUBSTANCE NOTES:

ALTERNATE: This substance is an alternate substance to Polyvinyl butyral (PVB).

Additional Listings

HPD v2.3 has added an "Additional Listings" section that reports when substances appear on key restricted substances lists (RSLs) or other non-hazard listings that are complementary to the hazard listings on an HPD. These listings provide a supplemental perspective for interpreting hazard screening results and support decision-making for manufacturers as they develop new products.

This new section is listed below the Hazard Listing and labeled as "Additional Listings."



1,1-DIFLUORETILENO ID: 75-38-7

HAZARD SCREENING METHOD: **Pharos Chemical and Materials Library** HAZARD SCREENING DATE: **2019-08-08**

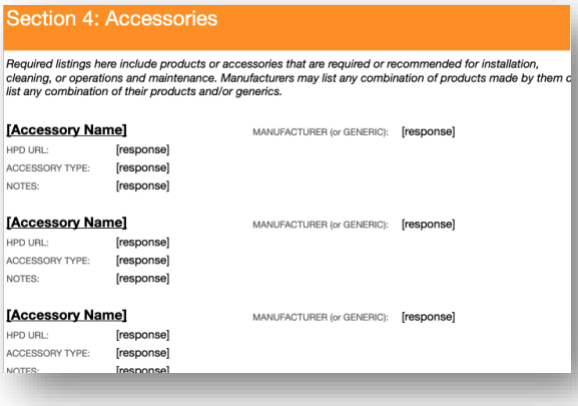
%: **10.0000–12.0000** GS: **NoGS** RC: **None** NANO: **No** SUBSTANCE ROLE: **Coating**

HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS
RESPIRATORY	AOEC - Asthmagens	Asthmagen (Rs) - sensitizer-induced
ADDITIONAL LISTINGS	AGENCY AND LIST TITLES	NOTIFICATION
RESTRICTED LIST	International Living Future Institute (ILFI)	Living Building Challenge 4.0 - Red List of Materials & Chemicals

HPDC may add Additional Listings over time as they are proposed by HPDC stakeholders. The following are currently approved for HPD v2.3:

- LBC Red List
- C2C Banned List
- Safer Chemical Ingredients List (SCIL)
- GSPI Six Classes (4 of the 6)
- REACH Exemption list
- Perkins & Will Precautionary List

Promote the Use of the Accessories Section of an HPD


Section 4: Accessories

Required listings here include products or accessories that are required or recommended for installation, cleaning, or operations and maintenance. Manufacturers may list any combination of products made by them o list any combination of their products and/or generics.

[Accessory Name] MANUFACTURER (or GENERIC): [response]
HPD URL: [response]
ACCESSORY TYPE: [response]
NOTES: [response]

[Accessory Name] MANUFACTURER (or GENERIC): [response]
HPD URL: [response]
ACCESSORY TYPE: [response]
NOTES: [response]

[Accessory Name] MANUFACTURER (or GENERIC): [response]
HPD URL: [response]
ACCESSORY TYPE: [response]
NOTES: [response]

Having information on a product's required accessories, such as an adhesive used to install a flooring product, gives HPD users a more complete picture of a product's health information. However, this section of the HPD has not been frequently or consistently used by manufacturers. Updates to HPD v2.3 was to provide an easier and clearer way of adding accessory information.

Update to LEED Pre-Check to Comply with LEED Version 4.1

LEED has been updated to LEED v4.1, while LEED v4 also remains in use. The LEED pre-check in the HPD Builder and Repository display should be updated accordingly. While some requirements for LEED remain the same from v4 to v4.1, LEED v4.1 introduces significant new pre-check requirements. Specifically, an analysis of the HPD content inventory, including percentage weights for ingredients and corresponding GreenScreen scores, is required to perform a complete pre-check.

How the HPD Relates to Other Standards, Certifications, and Information Tools

The HPD is used as a data source for many other programs in the material health ecosystem, reporting content inventory and associated health information that has been entered by the manufacturer in compliance with the HPD Open Standard.

Core programs in the building industry's material health ecosystem have harmonized their reporting of content inventory and associated health information with the HPD Open Standard. This data is made available in other programs either through the printed HPD report (in PDF format), or, increasingly through an automated data exchange, using the HPD Builder API (Application Program Interface) connection.

As material health practice grows within the building industry, new programs are emerging. HPDC actively supports and promotes harmonization with all material health and transparency programs.

- HPDs receive screening information from Pharos and GreenScreen® and provide content inventory information to these tools.
- The HPD Builder can export data to Toxnot, which is the platform for publishing Declare labels. In turn, manufacturers using Toxnot can transfer their data to the HPD Builder to publish an HPD.
- HPDs can feed into Cradle to Cradle Certified and in-house systems like those run by Google's real estate team, where project teams can select and specify products with HPD information.
- HPDs can also be used as documentation for the LEED rating system, the WELL Building Standard, Enterprise Green Communities, and the Living Building Challenge.
- Many other programs are being added on a quarterly basis.

The Health Product Declaration Collaborative – Resources for Manufacturers

The Health Product Declaration Collaborative (HPDC) is a not-for-profit, member organization that is responsible for the maintenance, evolution, and industry adoption of the HPD Open Standard. Through its Technical Committee, Technical Sub-Groups, and Advisory Panels, HPDC works proactively with manufacturers, users, and the broader materials ecosystem to remove barriers, and lower the cost of reporting and using this information. HPDC encourages you to participate in these efforts.

In addition to this Manufacturer User Guide, HPDC provides important tools to support manufacturers in creating and publishing HPDs for your products. For example:

- HPD Builder
- HPD Public Repository
- HPD Support Portal
- HPDC Website

The HPD Open Standard is open for all to use, governed by the Creative Commons license. If you are using tools and services provided by the HPD Collaborative, you are assured that they operate in full compliance with the HPD Open Standard. If you are using tools and services provided by other organizations, you should check with them to ensure that their materials are in compliance with the HPD Open Standard and the requirements of the Creative Commons license.

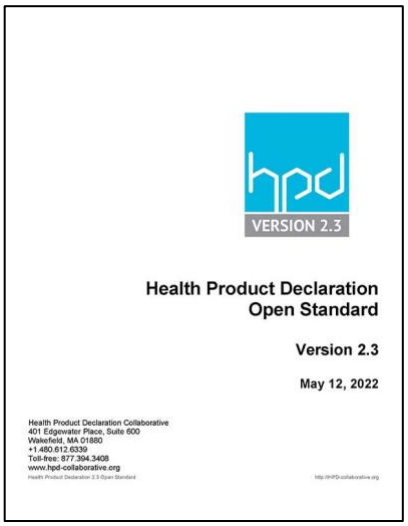
Finally, HPDC has developed a third party verification program, with approved verifiers as well as a list of approved third party preparers, and that is now reflected in the Standard.

2. About the Standard and How to Use It

The HPD Open Standard is the authoritative source for instructions on how to create an HPD. It contains definitions, rules, explanations, and other crucial information you need to ensure your HPD is accurate, correct, and meets the requirements you intend. Before starting your HPD, we recommend reviewing the information in the Standard.

This section introduces you to the Standard, its organization, and its contents. This section does not duplicate the detailed information in the Standard and is not intended as a substitute for this information. Instead, this section presents an overview of the organization of the Standard to help you find the information you need.

Section 3 of this document provides guidance on the process for creating HPDs, using the HPD Builder tool and other methods.



2.1 What's in the HPD Open Standard?

The HPD Open Standard contains five Chapters:

Chapter 1: Overview of the Health Product Declaration Open Standard

This brief Chapter describes the purpose and scope of the Standard and initial guidance for manufacturers on preparing an HPD. This section also introduces the Health Product Declaration Collaborative.

Chapter 2: HPD Open Standard Format Section-By-Section Guidance

This Chapter presents the detailed requirements for all the data fields in the HPD. Its organization is based on the HPD Format that includes six sections. Each of these sections is described below.

Section 1: Summary

This section summarizes information primarily for project teams and other users. It contains general information about the product and manufacturer, the HPD itself, and summaries of the more detailed information from the remaining sections. This includes:

- A visual indicator that distinguishes unpublished or draft HPDs from a published HPD. An unpublished or draft HPD contains a "DRAFT Unpublished HPD" watermark on the document as well as a gray color. A published HPD will contain an orange color.
- Information on the inventory, including the inventory method and threshold(s) used for the inventory, whether residuals and impurities were considered, and whether all contents were characterized, screened, and identified.
- A list of all contents in the inventory and identified hazards including GreenScreen scores, inventory and screening notes, and additional listings information.

- Information on VOC content and certifications from other programs.
- A preliminary indicator of whether the HPD is consistent with LEED v4 Material Ingredients credit requirements (optional).
- Information on third-party verification and preparation with a third-party verified visual indicator.
- Key dates, including screened, published, and expiration dates.
- The location where the HPD is publicly available, generally the HPDC Public Repository.

Much of the information in Section 1 is drawn from other sections of the HPD. If you are using the HPD Builder tool to create your HPDs, much of this information will be automatically populated, based on responses in the other sections of the Standard.

Section 2: Content in Descending Order of Quantity

This section presents instructions for each data field in the inventory, including instructions that will answer many questions you might have. This includes:

- For each Material (Nested Inventory method only) – name, percent, inventory threshold, residuals and impurities considered, residuals and impurities notes, and other material notes.
- For each Substance – name, identifier (usually the CAS RN), percent, role, recycled content, hazards, GreenScreen score, nanomaterial, and substance notes.

You must select one of the three available inventory formats to create your inventory – Nested Materials Inventory with material-level thresholds, Nested Materials Inventory with product-level threshold, or Basic Inventory with product-level threshold.

Section 3: Certifications and Compliance

This section presents instructions for required and optional reporting of VOC emissions, VOC content, and other certifications.

Section 4: Accessories

This section presents instructions for required reporting of accessory products used in the installation, maintenance, cleaning, or operation of your product. If not listing any accessories, enter “No accessories are required for this product.”

Section 5: General Notes

This section lists the information that is required or optional for this data field. Many entries can be reported here or under Material or Substance Notes.

Section 6: References

This section includes instructions for reporting information on the manufacturer, including a new requirement that the contact name is the person attesting to the contents of the HPD. This section also includes a list of acronyms and abbreviations for reference.

Chapter 3: Variations

This chapter provides very useful information for HPDs that are more complex or raise specific issues. It provides specific instructions for:

- Listing multiple products in a single HPD
- Multiple products with content differences greater than 10%

- Including alternate materials or substances
- Colorants
- Variable composition due to multiple suppliers
- Products composed of combinations of parts
- Special Conditions for materials and substances. This section lists materials and substances that are not easily handled in the HPD and refers to the Emerging Best Practices section of the HPDC website for guidance.

Chapter 4: Checklist for a Compliant HPD

This chapter summarizes the data elements required for the HPD to be considered compliant with the HPD Open Standard.

Chapter 5: Glossary

The Glossary includes definitions for many terms used in the Standard. These definitions can help clarify exactly what the Standard refers to or requires. These definitions can contribute significantly to your understanding of the Standard and its requirements.

Appendices

The Appendices have been removed in HPD Open Standard version 2.3 and are now only posted on the HPDC website.

2.2 How to Use the HPD Open Standard in Creating HPDs

The HPD Open Standard is a valuable resource for you as you create your HPDs and review other companies' HPDs. It can work in conjunction with other resources such as this Guide, the HPD Builder screens, FAQs, and other tools on the HPDC website, and inquiries to the HPDC Support Desk. Frequently, the Standard can be the quickest way to find an answer to questions such as:

- How long does an HPD remain in effect and when does it expire? See Section 2.1.6.7 Expiry Date.
- Does my data need to be exact, or can I report ranges? See Section 2.2.1.2 Percent (%).
- Can I combine several products into one HPD? What are the requirements? See Section 3.1.
- What if the composition of my product varies? See Sections 3.2 and 3.3.
- Where should I publish my HPD to make sure it meets the LEED requirements for "publicly available"? See Section 2.1.6.6.
- What do I have to do if I update some of the data in my HPD? See Section 2.1.6.7.

These are just examples, of course. You can always contact the Support Desk for personal responses to your questions. And HPDC will be building a body of knowledge based on the experience of manufacturers who are creating HPDs for their products.

Key Concepts and Definitions

There are three important concepts underlying the HPD Open Standard that are key to HPDs:

- **Content inventory**, including definitions of contents (materials and substances), thresholds, and content inventory methods
- **Descriptors of the completeness and type of reporting** – characterized, screened, and identified

- **Hazard screening and GreenScreen® for Safer Chemicals scores**

These concepts are introduced in the following section.

Content inventory

Contents: Materials and Substances

The content inventory lists contents in the product as well as the thresholds established for their reporting, hazard screening information, and other relevant information. Within the HPD this information is summarized in Section 1, which is always the first page of an HPD. Details of the content inventory are reported in Section 2, which begins on page 2 of the HPD and continues for the number of pages required to report the complete information.

Contents are reported in an HPD as they exist in the product "as delivered to the job site." A product's *contents* can include the *materials* and itemized *substances* that comprise each material:

- **Material.** A "material" is a uniform solid, liquid, or gas. Materials are composed of one or more "substances." 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.
- **Substance.** A "substance" is matter that can be characterized by the entities that comprise it (molecules, atoms, etc.) and by its physical properties, such as density, refractive index, electric conductivity, melting point, etc.
- **Content.** The word "content" is used in the HPD Open Standard to refer to both materials and substances more generally and to refer to materials and substances together.

Most products are composed of one or more materials, and materials are composed of one or more substances. Products can be composed of just a few materials or can be very complex, involving numerous materials and extensive supply chains.

Threshold

"Threshold" is key to understanding the precision of reporting used in the HPD (and the ability of the HPD to comply with LEED, Cradle to Cradle, and other programs). The threshold is the amount or concentration of a substance that must be present for that substance to be reported, at the specified threshold level.

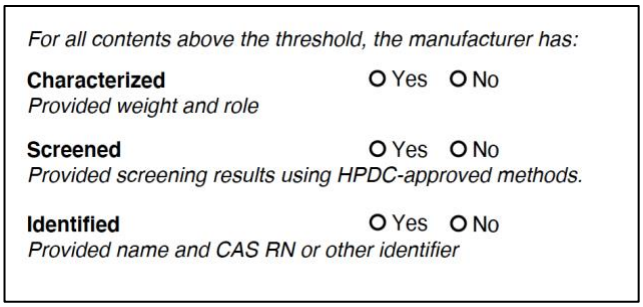
A lower threshold means that smaller amounts of substances will be reportable and therefore disclosure will be more complete. There are several ways thresholds can be reported:

- Parts per million (ppm) in which a threshold of 100 ppm is more stringent and requires reporting of substances present at lower concentrations than a threshold of 1,000 ppm, and hence is likely to lead to the disclosure of more substances. Note that concentrations can also be expressed as percentages, with 100 ppm = 0.01%, 1,000 ppm = 0.1%, and 10,000 ppm = 1.0%.
- Safety Data Sheet (SDS), based on the Globally Harmonized System (GHS) of Classification and Labeling of Chemicals. The SDS requires content reporting at 1,000 ppm (0.1%) only for reproductive toxicants, carcinogens, and category 1 mutagens, and at 10,000 ppm (1%) for all other hazard categories. The SDS is required to report certain hazardous contents that will be handled by workers in factories and do not require reporting of all substances.

Thresholds can apply to the whole product or to each material in the product. If thresholds are reported for each material, the summary can include several different thresholds; for example, 1,000 ppm for some materials and 100 ppm for others.

Content inventory methods

The methods for creating a content inventory are based on how *contents* are categorized (for the entire product or for each of the materials that comprise the product) and how reporting *thresholds* are applied (a single threshold for the entire product or individual thresholds for each material). The creator of the HPD determines which of these content inventory reporting methods is used in each HPD.


For all contents above the threshold, the manufacturer has:

Characterized O Yes O No
Provided weight and role

Screened O Yes O No
Provided screening results using HPDC-approved methods.

Identified O Yes O No
Provided name and CAS RN or other identifier

- **"Nested Materials" Inventory method.** This method lists **all** materials in the product. Substances within each material that are above the threshold level specified are itemized under that material – hence, the inventory has a "nested" structure. If a substance appears in multiple materials, it will be listed multiple times in the inventory, appearing under each material where it is a constituent. There are two variations of this Inventory, based on the way the threshold is specified – at the material level or at the product level.
  - **Nested Materials Inventory with material-level thresholds**. In this method, thresholds are established for each material and these thresholds govern which substances must be listed under each material. If **material-**level thresholds are used for all materials in the product, they are indicated in the threshold data field for each material.
  - **Nested Materials Inventory with a single product-level threshold**. In this method, a single threshold is established for the product and is used to determine which substances are listed under the various materials. If a **product-**level threshold is used for a Nested Materials Inventory, all substances above the per product threshold must be reported under the appropriate materials. It is possible that a material can be listed with no substances nested under it. This could occur if all substances in the material are below the product-level threshold indicated.
- **"Basic" Inventory method.** This method does not identify materials and creates a single list of all substances within the product based on a product-level threshold. A product-level threshold must be used.

Examples of HPDs created with these different methods are provided on the HPDC website.

Descriptors of the completeness and type of reporting

Characterized, Screened, Identified

This section summarizes the completeness and type of reporting in the HPD.

- "Characterized" indicates whether the percent weight (quantity) and role or function are provided for all substances above the threshold indicated.
- "Screened" indicates whether all substances above the threshold were screened for hazards using lists in the HPD Open Standard, and results are reported.

- "Identified" indicates whether all substances above the threshold are reported by name and identifier (Chemical Abstract Service Registration Number – CAS RN).

In creating an HPD, it is possible to "Characterize" and "Screen" one or more substances but not "Identify" them. This reporting approach provides a way to withhold disclosure of proprietary or confidential information, but still report information about potential hazards associated with the product contents. Such reporting provides for compliance with certification requirements, such as for the LEED v4 Material Ingredients credit.

Hazard Screening and Assessment

Pharos Chemical and Materials Library and GreenScreen for Safer Chemicals scores

An integral element of reporting about products with the HPD Open Standard is to include a hazard screening of the substances in the product and a listing of hazards that have been associated with these substances. This association information has been determined by many different, independent authoritative bodies, based on criteria that they have established using the results of epidemiological, toxicological, and scientific research studies.

The HPD Open Standard specifies which of the lists created by these authoritative bodies are to be considered in the hazard screening information reported in an HPD (see the Appendices of the HPD Open Standard for further information on the authoritative bodies and hazard lists.

It is important to understand that a screening result that indicates an association of a substance with a hazard does not provide information about the exposure to or risk of that hazard in the product. Determination of exposure and risk requires additional assessment of the product and its usage in buildings. Should you wish to include such information in your HPDs you can do so by including it in the Notes sections of the HPD.

In the HPD Open Standard, hazard information for reported substances consists of two categories of results:

Reporting of Hazard Warnings

This reporting is performed using the HPD Open Standard Priority Lists. These lists are primarily based on the GreenScreen for Safer Chemicals, a program of the nonprofit organization Clean Production Action, but also include lists from the U.S. Environmental Protection Agency, the European Union, and other governmental organizations.

Within the HPD Builder, the hazard warning function is automated using the Pharos Chemicals and Materials Library database, which is created and maintained by the Healthy Building Network. It is also possible for this screening to be performed if an HPD has been created using other automated tools.

Reporting of GreenScreen List Translator and Benchmark Assessment results

The GreenScreen approach facilitates comparative chemical hazard screening and assessment at the substance level. There are two types of GreenScreen results that can be reported in an HPD:

- *List Translator (LT) scores*: these are produced using the GreenScreen List Translator method that *screens* against GreenScreen hazard lists. No additional assessment is performed.
- *Benchmark (BM) scores:* these are produced through a Certified Full GreenScreen Method assessment that includes a toxicological review of all available information from scientific studies, hazard lists, and modeling or analogs. Benchmark scores represent a more comprehensive assessment than List Translator scores.

The HPD Hazard Screening Summary includes two summary indicators based on GreenScreen:

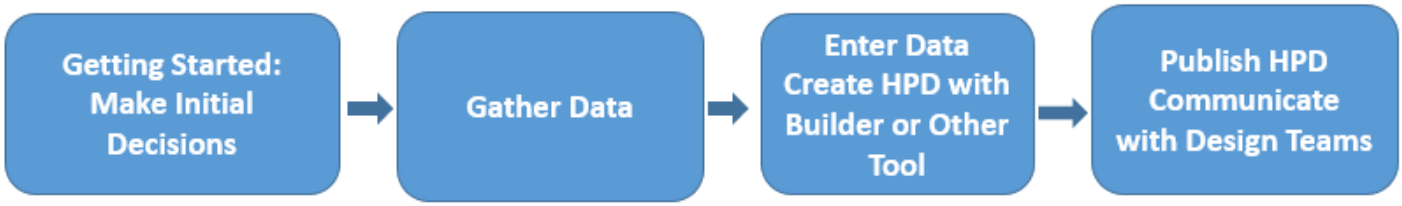
- **Number of GreenScreen BM-3/BM-4 Contents.** This section reports on the total number of substances with *lower* hazards – Benchmark-3 (use but there's still opportunity for improvement) or Benchmark-4 (prefer – safer chemical). This data is reported when there are publicly available Benchmark Assessments for the substance. If the manufacturer is aware of a privately available Benchmark Assessment for a substance reported in their HPD, they should contact the assessor to discuss the potential to include this information in their HPD reporting.
- **Contents' highest concern GreenScreen score(s) (BM-1, LT-1, LT-P1)**. This section reports on the GreenScreen score(s) of BM-1, LT-1, and LT-P1 if found in any of the substances in the product.
    - BM-1: Benchmark-1 (avoid – chemical of high concern)
    - LT-1: List Translator-1 (Likely Benchmark-1)
    - LT-P1: List Translator-Possible 1 (Possible Benchmark-1)

3. Creating an HPD–Process Recommendations

This chapter outlines a process that you can use as the basis for organizing the tasks involved in creating an HPD. This is only a suggestion and each HPD and manufacturer is different. Since the understanding of these process steps is evolving, this Guide provides an overview and a link to the HPDC website where this growing body of knowledge will be able to evolve.

3.1 Overview of the Process

Each manufacturer will use different methods, based on the product and processes used to create it. The process outlined below and, in this chapter, provides general guidelines to be modified and expanded as needed.



3.2 Getting Started – Initial Decisions

If you are already creating and publishing HPDs for your products – congratulations on participating in disclosure, transparency, and the movement toward healthier products and projects!

If you are still wondering whether to create HPDs for your products, consider these benefits:

- Many leading architecture firms and influential owners now require material disclosure for products prior to considering them for inclusion in their libraries and projects. HPDs provide a format for disclosure directly or for providing data to other reporting tools.
- HPDs are used by projects to achieve LEED material disclosure and optimization credits – your product will stand out if it has a LEED-compliant HPD.
- HPDs are used to document WELL and Living Building Challenge projects and can exchange data with the Declare program, Toxnot, and Cradle to Cradle Certified. You can save significant time, energy, and money by documenting data with the HPD for use in these other reporting tools.
- Consumer demand for ingredient information is increasing across a wide range of consumer products. Some home improvement stores are prohibiting specific chemicals in specific products in reaction to these trends. HPDs provide a means for reporting this information.
- The information gathered for your HPD can help you get out ahead of future risks. You can identify ingredients that could prove problematic in the future and start now to design them out or to find alternatives. Given some lead time, you can seek suppliers that offer more acceptable alternatives or encourage them to develop such alternatives.
- It's the right thing to do. Taking the first step toward learning about potential hazards in your ingredients, by creating HPDs, is a first step in seeking safer alternatives and improving your products and making them more attractive to those that specify or purchase them.

Now that you have decided to create an HPD, how do you get started? There are a few initial decisions that are necessary.

Decide whether to create your HPD in-house or with a consultant

The HPD Open Standard was designed to be usable by manufacturers, without requiring you to hire outside consultants. In some cases, though, it makes sense to get help. There are third-party preparers who are recognized by HPDC and can be depended upon to provide quality services; there are other consultants as well who offer these services. Here are a few questions to help you think about this issue:

- Do you have an employee who has time to devote to this effort? For a simple product with a small and cooperative supply chain, an HPD can be created quickly. However, if all your employees are already very busy, you might not be able to support the effort in-house.
- How quickly do you need to get the HPD created? Are there project teams demanding an HPD *now* for a project submittal? Can you fit this into your regular workload and still meet these requests?
- Do the available employees have the needed expertise and knowledge of the product to enable them to gather and process the data accurately? Are they familiar with suppliers and can they work effectively with them if data must be requested from them?
- Do you want to devote staff time to learning about HPDs as an investment in creating future HPDs?
- How complex—and known to you—is your supply chain? For complex products, there can be a multi-tiered, complicated supply chain that you will need to work with to determine the contents of your products at the level of homogeneous materials and/or substances. This information generally is not the same as what is in your Bill of Materials (BOM) for the product. The work required to complete an HPD will vary significantly, based on these variables. There may be significant advantages to working with a third-party preparer who can focus effort on diving into this supply chain.
- Finally, do you have suppliers that will not release information to you about ingredients? If so, a third party working under a Non-Disclosure Agreement might be an effective way to obtain that data and enable you to create a LEED-compliant HPD. LEED allows withholding of the name and identifier of proprietary ingredients, as long as they are characterized (role and amount in the product) and screened for hazards. Third party preparers can arrange this. The Supplier HPD can also be an effective tool for managing this process.

You can revisit this decision as the work on the HPD progresses. At any point, you may decide that a consultant would be helpful in:

- Scoping the HPD
- Planning and organizing data collection
- Approaching suppliers
- Evaluating data received from suppliers
- Other tasks involved in creating an HPD.

Determine disclosure goals or requirements

Why are you creating this HPD? How will it be used? Are there outside requirements it must meet? The answers will help you make important decisions. Here are a few reasons for creating HPDs:

- Your company supports disclosure and transparency and wants to demonstrate leadership by providing the information that you have available.
- Your company wants to market its products as compliant with LEED, WELL, owners' requirements, etc. In this case, you need to be very familiar with the requirements of these constituents. The HPDC website has guidance for using HPDs in various systems. This guidance was developed in collaboration with the sponsors of these systems – USGBC, GBCI, International WELL Building Institute, etc. This guidance is updated as the programs evolve.
- Your company plans to pursue Declare labels or Cradle to Cradle certification and wants to avoid redundant forms for data submittal. The HPD Open Standard was developed with the Harmonization Task Group and continues to strive for harmonization with all potential users of HPD data. Your company can complete an HPD and can share the data automatically with several other programs, saving you time, money, and potential errors.

As work progresses on your HPD, you might find that you must revise your goals. For example, you might learn that your product cannot meet the LEED Material Ingredients credit Option 2, which requires inventory reported to 100 ppm and no GreenScreen Benchmark-1 or List Translator-1 scores. But the product could still qualify under Option 1, which rewards disclosure rather than optimization.

Decide on inventory method and threshold

Early in the process, you will need to decide on what inventory method and threshold(s) to use. As described earlier in this Guide, there are three methods for creating an HPD inventory: Nested Materials Inventory with Material-level Thresholds, Nested Materials Inventory with Product-Level Threshold, and Basic Inventory Method**.** Once you select a method and start creating your HPD in the HPD Builder, you will not be able to change to another method without redoing some work.

Each approach has advantages. Advantages of Nested Materials Inventories include:

- Allows supplier data to be updated without changing the entire HPD.
- For products with many variations, you can switch out a component that changes without requiring recalculation of the entire HPD.
- For complex products that you assemble, you can build the HPD component by component from supplier data.
- Identifies the specific material(s) that contain hazards so alternatives can be sought.
- Closely matches your existing ordering and recordkeeping systems.
- Nested inventories with material-level thresholds provide the most rigorous reporting.
- Nested inventories are easier for HPD users to read and understand.

The advantages of Basic Inventories include:

- Easy for simple products with few ingredients.
- Enables you to avoid reporting small quantities of substances that would be required under material-level thresholds.

In both methods, manufacturers frequently want to protect proprietary product formulations. In addition to withholding the identities of substances, manufacturers can protect formulae by entering contents of the product as ranges up to 20%, rather than exact quantities. If manufacturers prefer to increase the range beyond 20%, a valid explanation must be given in the Substance or Materials Notes on the HPD.

3.3 Gathering Data

The HPD contains information on the contents of your product "as it is delivered to the job site."

- In some cases, for simple products, this information may be found on a Bill of Materials (BOM).
- In many other cases, homogeneous materials and/or substances, which are reported in an HPD, are lower level inputs into the materials in your product BOM. So, you will need to gather this information from your supply chain rather than your direct suppliers.
- Another consideration in gathering data for your HPD is whether the inputs (which are reported on a BOM) are transformed at the chemical level during your manufacturing processes. If so, you will need to report these process outcome level ingredients—not simply inputs. You might not have an exact breakdown of the ingredients and their quantities in the final product, as delivered if you have not had that final product tested and characterized.

The following is a suggested outline of a process for gathering and assembling the information you will need to create your HPD. Each manufacturer will need to tailor these steps to your own systems and products.

Gather In-House Information

Once preliminary decisions outlined in the previous section have been made, the first step is to gather available in-house information.

- Determine hierarchy of product: assembly, part/component, sub-component, material, substance. This is useful in identifying and organizing data to be gathered and gaps in that data. Determine the suppliers you will need to contact to determine information at the homogeneous material and/or substance level that is not already available to you from your direct supplier list.
- Create an Inventory of product contents – materials and substances – of available information based on this hierarchy. Many use a spreadsheet to organize this information. Include "intentionally added ingredients" and "residuals and impurities" as defined in the HPD Open Standard. The contents should be "as delivered to the job site" if possible. Sources can include:
    - Supplier HPDs
    - certificate of analysis and results of product testing
    - bill of materials
    - SDS, TDS, etc. for final product and each ingredient (material/substance)
    - shipping receipts, etc.
- Note that as the manufacturer a single ingredient may be composed of multiple substances. For example, when a paint manufacturer gives a formulation, it usually states that there is X% TiO2. However, that is referring to the % TiO2 ingredient used, not the actual amount of TiO2 in the pigment product (which can vary greatly depending on the supplier and product). The TiO2 pigment procured by you as the manufacturer may also contain fillers, modifiers, etc. When these substances fall above the selected reporting threshold, they must be reported on the HPD individually.
- Use the process outlined in "Best Practices" on the HPDC website to identify residuals and impurities in your product.
- If you are using the Nested Material Inventory method you must include *all* materials and, for each material list data specified in the Standard.

- For both the Nested Material Inventory method and Basic Inventory method, you must list all substances that are above the threshold selected, as specified in the Standard.
- Check to determine if any materials or substances might be considered Special Conditions by HPDC and if so, go to "Emerging Best Practices: Special Conditions" to learn how to handle these materials or substances. Examples include materials without CAS RNs such as biological, or geological materials.
- Identify materials/substances that are trade secrets and should be reported as proprietary.

In addition to the Content Inventory, the HPD requires that you include the following information that you will need to gather:

- VOC content for all liquid/wet applied products.
- Any additional certifications.
- List of accessories required in the installation of the product.

Contact suppliers with requests for missing information

Consider the best approach for each supplier, as they will differ in their ability and willingness to provide information. You may need to bring in outside consultants to help with this process.

- Try to give suppliers adequate time to gather and provide the information. In the case of a multi-tiered supply chain, work with your direct supplier(s) to understand what is going to be required on their end to provide the level of information that an HPD requires.
- Be specific. Tell them exactly what you need; include definitions, thresholds, and any other information that will increase the likelihood that you will get the data you need. Don't expect them to respond to your request that they give you "data needed to meet LEED v4 credit requirements" – be explicit.
- Use a tool like the Supplier HPD to make requests. This provides a specific format, instructions, and data entry system to streamline the suppliers' efforts.
- Tell them why this is important – that an HPD could enhance the use of the product and sales volume, which is in the best interest of the supplier as well as the manufacturer.
- Make sure you get a contact person in case you have additional questions about the information provided.
- Send a Supplier HPD request, material content data request form or spreadsheet including a request for missing data: product name/ID, supplier name, a complete inventory of intentional ingredients [substance name, CAS RN, % by weight in supplier's product, role in product] residuals/impurities [substance name, CAS RN, % by weight/ppm/ppb, expected/known source, name of disclosing contact with signature and date].
- Be prepared to sign Non-Disclosure Agreements (NDAs) with suppliers as necessary. Some suppliers will only work through a third party under an NDA. In this case, if you are not already working with a third-party preparer, check the HPDC website for a list of preparers working with HPDs.
- Use supplier-provided data to fill in the gaps in the Inventory. Assess completeness and whether you are ready to proceed.

3.4 Creating an HPD using the HPD Builder online tool

Once you decide you are ready to proceed in creating your HPD, you first must decide what tool you will use. HPDC provides the HPD Builder, a web-based system, which is an authoritative method to create HPDs for your products. The HPD Open Standard supports other tools and platforms that would like to support HPD creation (including Toxnot—see sidebar), but currently, almost all HPDs are produced using the HPD Builder.

To use this tool, start by creating an account in the HPD Builder. There are two options for accessing the Builder:

- Your company can become a member of the HPDC and have unlimited use of the Builder.
- Your company can use the Builder on a per-use basis, purchasing one or more HPD bundle packs that contain five "tokens" for creating HPDs.

Visit the HPDC website to learn more about membership and HPD bundle pack.

If you are looking at tools or providers other than the HPD Builder, note that it is the responsibility of the tool provider to ensure that their tools are in full compliance with the requirements of the most current version of the HPD Open Standard, and fully up to date with Emerging Best Practices guidance for that version. If you have any questions on this, contact support@hpd-collaborative.org.

The HPD Builder has specific advantages:

- It provides an information management tool for creating, managing, printing, and publishing your HPDs.
- It is guaranteed to be compliant with the current version of the HPD Open Standard and updated with the latest Emerging Best Practice guidance.
- It provides significant online guidance and format checking while you are creating HPDs.
- It does an automated hazard screening and hazard warning reporting, that complies with the HPD Open Standard.
- It does an automated completeness check, which finds inconsistencies with the Standard and reminds you if you have not filled in a required data element.
- It provides you with the option to perform an automatic LEED Pre-Check to indicate consistency with LEED v4 Material Ingredient credit requirements.
- It provides for automated publishing, and management of your HPDs, in the HPD Public Repository.
- It links electronically with an increasing number of other tools, standards, and certifications to provide for automated data exchange of information in your HPDs. This feature is controllable by you, so that you can exchange date with only those tools and systems of your choosing.

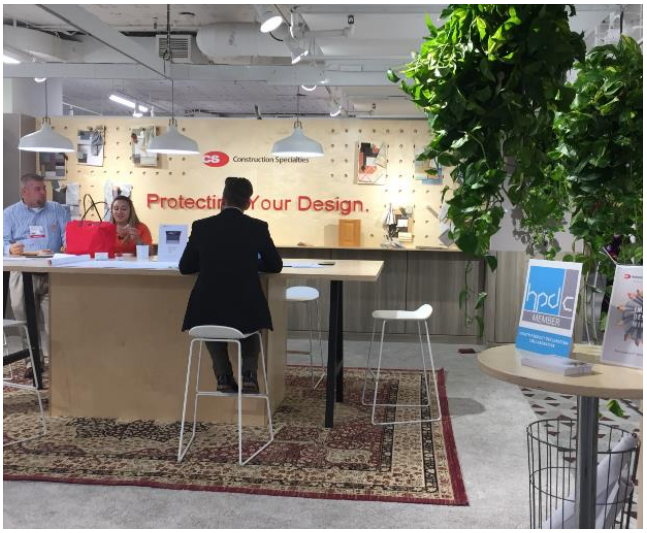
The HPD Builder is a lot like a web-based income tax preparer. It walks you through the HPD, step by step, and gives you the instructions you need as you need them. It's also a good idea to have the HPD Open Standard open as you go through the Builder. The Builder includes excerpts from the Instructions that apply to each section of the Builder, but additional detail is provided in the Standard Instructions as well as guidance in handling specific variations.

3.5 Communicating with Design Teams and the Public

Once you have completed your HPD, how can you make sure design teams know about it? Some suggestions include:

- **HPD Public Repository.** The HPD Public Repository is the authoritative source and archive for all published HPDs. Your completed HPD will be held in the HPD Public Repository as a PDF file, once you have "published" it through the Builder or have uploaded a PDF version to the Repository. Once an HPD is published in the Repository, it is "public." Draft or unpublished HPDs will lack the recognized orange-and-blue HPD format and will contain a "DRAFT Unpublished HPD" watermark, so design teams and the public know your HPD is published to the HPD standard. HPDC also offers automated data exchanges between the Repository and third-party libraries, so these published HPDs have more ways of getting accessed. For example, the Mindful Materials database pulls in HPDs directly from the HPD Public Repository.
- **Company Website**. Highlight your commitment to disclosure and transparency on your own website. Let project teams know which of your products have HPDs available and where to find them. We recommend linking from your website to the HPD Public Repository to make sure that you are providing the most up-to-date published versions.
- **Sales reps**. Train your sales reps so they can promote your company's commitment to disclosure and healthier products, present your HPDs, and explain their value to customers. For example, having LEED-compliant HPDs can be an important selling point. This Guide can help reps understand HPDs and the LEED guidance on the HPDC website can help them point out the specifics in an HPD that make it LEED compliant. The more knowledgeable they are, the more effective they will be in promoting this new aspect of your products. Since this is new territory for them, provide time for them to learn about HPDs and consider holding internal lunch and learns for your sales staff. HPDC's website provides useful materials for further training your team.
- **"Lunch and learn" for customers**. You might already offer this type of program to familiarize customers with your products – you can add HPDs to these presentations or offer more in-depth lunch and learns about the health aspects of your products and what you are doing about this topic. Check the HPDC website for resources that might be useful for incorporating HPD topics in these sessions.
- **Advertising**. Product advertising often highlights features that relate to sustainability, environmental performance, and health. In publications targeted to the green building market, advertising often includes LEED, WELL, and other compliance. If you want to use the HPD logo in your advertising, please contact us at support@hpd-collaborative.org for more information.
- **Conferences and trade shows**. In your booth at trade shows and exhibits, you can highlight your HPDs. If you are an HPDC member, you can display a member sign. HPDC provides "HPDC Member" signage for use in your booth or other events. Please contact us at support@hpd-collaborative.org for more information on booth signage and logo usage. Further, manufacturers are presenting their experiences and accomplishments in regular sessions, reaching a new audience. These sessions are particularly effective when you can tell a story about your journey to disclosure and transparency, what it means to your company, what barriers you encountered and overcame. Team with users of your products to tell a more

complete story. These presentations and discussions can contribute to a more positive, constructive relationship with your customers.



3.6 Tips for Success in Creating your HPD

The following tips were gathered from companies successful in creating HPDs.

Where can I get help or answers to questions while I am creating an HPD?

HPDC provides resources to help you find answers to your questions. For questions about the Standard, data requirements, and the Format:

- The HPD Open Standard is the authoritative source for the specification of data requirements in the HPD. It provides detailed explanations of each data field, including variations that are acceptable. The Standard is available for free download.
- This Manufacturer's Guide provides advice on completing an HPD. It does not provide the complete and detailed specification that is in the Standard.
- The FAQs on the HPDC website provide answers to questions. It is searchable and organized into categories.
- If you do not find an answer to your question, you can submit a "ticket" to request assistance. In the Support Portal, go to Tickets and New. This system enables us to track all inquiries and ensures a timely response. Be as specific as possible.

What are projects looking for? How can we make our HPD stand out?

Project teams will have different reasons for asking for and looking at your HPDs. Understanding those reasons will make sure your HPDs meet their expectations.

- If project team users are planning to use the HPD to meet the requirements of a particular certification system, make sure you know which certification system it is and the details of the requirements. For example, if they are trying to achieve the LEED Disclosure and Optimization credit, you need to know if they are trying to achieve Option 1 and/ or Option 2. The requirements are different for the two Options within that credit.
- All users want a complete HPD that is reported in compliance with the requirements in the HPD Open Standard. If you are preparing HPDs in-house, someone in your organization needs to be very familiar with the Standard. There is a Checklist in the Standard that can be useful in ensuring completeness.
- If you have reports, studies, or additional certifications that explain the contents of your product, especially the hazards it contains, include reference to those reports, studies, or additional certifications in the Notes sections. Don't just include a vague statement that "there is no risk of exposure to this hazard" – provide links to evidence. This provides credibility.

- Provide explanations for anything else that might raise a question – why do you provide ranges for amounts of some substances rather than a fixed quantity? Why were you not able to consider residuals and impurities in some materials?
- Consider Third Party Verification of your HPD. As more HPDs appear on the market and are used more frequently by designers, there is demand for a higher quality of information, which is achieved with a third-party review.

How can we avoid problems with reviews and rejection of HPDs by LEED reviewers?
Each version of the HPD has become easier for reviewers to review. The requirements have been clarified and the relationships between the data fields on the HPD and the LEED requirements have been clarified. If you have HPDs created with version 1.0 or 2.0 that have been rejected, create new HPDs with version 2.3. This new version has several built-in advantages for LEED compliance:

- The Builder conducts a "completeness" check automatically to notify you if a data field has not been filled in.
- The Builder can do a Pre-Check of LEED compliance – this is an optional mechanical check that identifies any fields that have been left blank or are not completed in accordance with LEED requirements (such as threshold level or Characterized/ Screened/ Identified). It does not check the quality of the data in those fields, but it provides a preliminary check. If you run the Pre-Check and learn that your HPD does not meet the requirements, you can go back and see if items can be completed or corrected. If you are not able to meet the requirements, you can publish your HPD without disclosing the results of the Pre-Check.
- Definitions of data field requirements have been clarified.
- Special Conditions policies have been added to clarify reporting of specific kinds of materials such as wood, stone, mixed recycled content, biological material, polymers, fasteners, and electronics.
- Consider using HPDC's third party verification program. This program provides an additional check on your HPD. Verified HPDs are also eligible for more credit in LEED v4.1.

How can I work with my suppliers to obtain their data?
This can be the most difficult part of creating an HPD. Suppliers can be reluctant to provide the information, claiming that it is proprietary. A few successful strategies are:

- Talk to the supplier to find out exactly why they won't provide the data—that will help you figure out the best strategy.
- If they are willing to provide the data to you but not allow it to be published, assure them that you can enter the identifying data, such as name and CAS RN, but then define that item as proprietary so the identifying information will not appear but the hazards resulting from the screening will appear. If you want your HPD to be LEED compliant, this is allowed. Name and CAS RN can be withheld if role, amount, and hazards are listed.
- If they are not willing to provide the data to you, ask if they are willing to provide it to a third party who can create your HPD under a Non-Disclosure Agreement for that information. Third Party Preparers serve this role, as well as assisting in the creation of the HPD. The Supplier HPD can also perform this role. It allows the supplier to pass hazard screening information required by the HPD to the manufacturer while the supplier withholds identifying information.

Can I get my HPDs third-party verified? Should I?

Third-party verification is a process in which an objective outside party reviews your HPD and verifies specific data. This process is used in many reporting systems, and HPDC developed a third-party verification program that is consistent with the ISO 17065 standard. A few key facts about HPDC's third-party verification program:

- It is a "desk audit." It does not independently run laboratory tests or assess the ingredients of your product.
- Instead, it checks data ensuring the content inventory matches other documentation, e.g., Bills of Materials, and that undisclosed substances have been properly screened.
- Third-party verifications are performed by organizations that have met standards established by HPDC.
- The work of the verifiers is audited by HPDC to ensure quality.

Third-party verifications give your customers more confidence in the HPD and its information. Some programs require verification or, like LEED v4.1, give "extra credit" for verified HPDs.

Do I need an outside consultant to help me prepare my HPD?

The HPD Open Standard was designed to be usable by manufacturers, without requiring you to hire outside consultants. In some cases, though, it makes sense to get help. There are third-party preparers who are recognized by HPDC and can be depended upon to provide quality services. Review the section in this guide, "3.2 Getting Started – Initial Decisions," for guidance on this topic.

What are the HPD Builder and HPD Public Repository APIs? How can they benefit my company?

An Application Program Interface or "API" is a mechanism for sharing of data among systems and tools. HPDC has implemented an API for the Builder and an API for the Repository.

- The HPD Builder API is a mechanism for sharing the data elements in a manufacturer's HPD Builder account with selected other systems and tools, for example, with Toxnot. Participation is at the option of, and completely controlled by, the manufacturer, through an interface in the HPD Builder system. If you choose to participate, you will be able to export data from your HPD Builder files to those applications you select. In some cases, the HPD Builder will also accept data from other applications, in which case you will export that data from your account into the other participating application to the HPD Builder. The update frequency and content of the data to be shared is totally controlled by the manufacturer, within the parameters of the participating application. Since each participating application is different, manufacturers should consult the HPD Builder application for additional information contact HPDC Staff with questions.
- Once a manufacturer "publishes" an HPD to the HPD Public Repository (whether automated via the HPD Builder, or manually via the Repository), the completed HPD becomes a publicly available PDF, and is automatically made available via two access methods:
    1. HPD Public Repository – direct access. A web-based search/download capability, for individual users. This capability is available, at no charge via the HPDC website.
    2. HPD Public Repository – access via a participating library/directory. An electronic data exchange capability has been implemented by HPDC with participating libraries/directories, such as Mindful Materials. This interface enables libraries and

directories to electronically upload HPDs from the Repository, and display completed HPDs for use on these libraries and directories.

What's the best way to "publish" my HPD?
The HPD Public Repository is the authoritative place to publish your HPD. To have the status of "Published," a completed HPD must appear in the HPD Public Repository and contain the recognized orange-and-blue HPD format. It may also appear on manufacturer websites, and in other public directories, but will not be officially "published" if not in the Repository. If you use the HPD Builder, you can automatically publish HPDs to the Repository, from the Builder, and manage your published HPDs from your Builder account.

What is the status of legal questions about risk and liability when it comes to material transparency?
The American Institute of Architects published a white paper on legal concerns for architects that is helpful in addressing many common questions. You should consult with your own legal team on specific concerns. The broad adoption of the HPD Open Standard, with over 10,000 HPDs published by over 700 manufacturers, is evidence that manufacturers can find ways to address legal questions and participate.

What are some common mistakes and how can they be avoided?
The following are mistakes that can affect how project teams can use your HPD:

- *Use SDS to identify contents.* If the only information you have on the contents of your product comes from an SDS, use it. However, be aware that thresholds used in SDSs do not meet LEED requirements. Further, these sources do not report many types of ingredients that are required for an HPD.
- *Assuming your Bill of Materials will contain the required content list.* For more complex products with multi-tiered supply chains, the Bill of Materials generally will not have the required detail. Be sure to understand the depth and breadth of your supply chain and allow adequate time and resources to obtain needed data.
- *Other failure to report all contents.* You must report all materials in the product if you are preparing a Nested Inventory, and all substances above the stated threshold (per product or per material).
- *Use of incorrect CAS RN.* The use of an incorrect CAS RN will result in inaccurate hazard screening. You must use the most applicable CAS RN for the substance; there might be several variations of the substance and it is important for you to identify the one used in your product.
- *Threshold doesn't meet requirements for reporting (LEED, Declare, C2C).* It's important to understand how your HPDs will be used so that you can meet all the applicable requirements. Choosing an incorrect threshold can result in an HPD that is non-compliant with the requirements of a program you want to participate in.
- *Not taking the first step of creating your first HPD.* When you publish an HPD, you are indicating to your customers and your employees that your company is part of the movement toward greater transparency and toward healthier products. As you gain more experience with creating and using HPDs, you can update your HPDs to make them more complete and to cover more of your product line. And you can also begin to use the information in your HPDs to give your own product development teams insights into ingredients that you may want to improve. Project teams look favorably on manufacturers who participate in the transparency movement. They

understand that all products have substances that may display hazards on an HPD. They appreciate that manufacturers are on the pathway toward greater optimization of products.

4. Case Studies and Examples

The field of reporting, disclosure, and transparency is evolving rapidly, and the lessons provided by participants will be excellent resources for you and your company. This section links to case studies, stories, and interviews with manufacturers, third party preparers, reviewers, and other experts who provide their perspectives, experience, and advice.