Health Product Declaration Standard

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HEALTH PRODUCT DECLARATION (HPD) STANDARD VERSION 1.0

Authoritative guidance for completion of a Health Product Declaration for Building Products

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Overall Guidance

SCOPE: This HPD Standard describes a declaration of product content and direct health hazards associated with exposure to its individual contents.

EXCLUSIONS: The Declaration is not an assessment of risks associated with actual use of the product. It does not address the potential health impacts of substances used or created during manufacture that do not appear in the final product as residuals, nor substances created during combustion or other degradation processes. This Declaration is not a full assessment of environmental impacts from the life cycle of this product.

DISSEMINATION AND USE OF HPDs AND THE PHRASE "HEALTH PRODUCT DECLARATION": The HPD Standard is an Open Standard available to use by all without cost subject to the constraints of the Creative Commons License. See "License for Use" on the previous page for more information. Manufacturers are welcome to post compliant HPDs on their website and to distribute them to customers and other interested parties.

UPDATING REQUIREMENTS: HPDs must provide current data. HPDs should be revised within three months after a significant change in contents of the product. A significant change is when an ingredient is added or removed from the contents. A change only in percentages does not require a revision. The HPD can also be revised to indicate changes in Section 3 – Certifications and Compliance.

When an HPD is revised, all product contents and residuals must be checked against the current authoritative hazard lists to determine if new warnings must be added. Section 3 – Certifications and Compliance should also be reviewed to include any updates to tests and replacement of outdated certifications. With any such revision the HPD is considered re-issued, with a new publication date.

HPDs which have not been revised for content changes within three years are considered out of date and must be reviewed against the current authoritative hazard lists and reissued. See "Authoritative chemical hazard lists" in Appendix G – Terminology for requirements and guidance for use of up to date information from these lists.

ABOUT THE HPD: The Health Product Declaration Standard was originally developed by the HPD Working Group with the support of the Materials Research Collaborative, a non-profit collaboration of the Healthy Building Network and Building Green. It is now managed by the HPD Collaborative.

USE OF THIS GUIDE: This HPD Standard provides the only authoritative guidance on how to properly prepare a Health Product Declaration for a product. In addition to the written guidance, the HPD Standard includes a Template which provides a visual reference describing how the declared information should be presented – form field prompts and approximate order.

TOOLS FOR PREPARING AN HPD: The HPD Collaborative has developed the HPD Template in an excel spreadsheet to facilitate consistent preparation of HPDs. The excel spreadsheet Template includes instructive prompts for many of the entries. These prompts, do not, however, constitute all of the guidance necessary to properly complete an HPD. The spreadsheet must be used in conjunction with reference to this Standard for guidance on the proper data to provide in each data entry space. The spreadsheet may be downloaded from the HPD Collaborative website. Other organizations may produce tools to support preparation of HPDs. The Collaborative will publish reference to these tools on its website as it becomes aware of them.

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.hpdcollaborative.org*.

Simple Steps to complete an HPD

The HPD Standard is broken into sections to ease the documentation process. Select people in the company most familiar with the themes outlined. Then follow these steps:

IDENTIFY	Fill out manufacturer information and product description.
INVENTORY	Collect the documentation and list product contents.
ASSESS	Review contents against authoritative chemical Hazard Lists.
COMPLIANCE	Provide the details of product testing and compliance.
ACCESSORIES	Note installation/maintenance/cleaning/operations materials.
SUMMARIZE	Confirm the summary page, fill in explanatory notes & release date.
PUBLISH	Share with your customers.

Checklist for a Complete HPD

All Health Product Declarations must follow these directions to be considered complete:

SECTION 1 – SUMMARY:

- Certain data fields of the Summary section are auto populated using data entries from other sections of format when using the HPD Template spreadsheet:
    - Expiry Date
    - Contents in Descending Order of Quantity
    - Hazards
    - Certifications and Compliance

  These fields should also be auto populated by other HPD support tools as they are developed.
- Fill out all other entries, with the exception of Certifier and Certificate #, which is only to be filled out by second or third party certifiers (not currently available for the publication of version 1.0.)
- Indicate with a Yes or No if the HPD meets the **Full Disclosure of Intentional Ingredients** and **Full Disclosure of Known Hazards** requirements.
- Provide an explanation in Disclosure notes if the answer to either question is No.
- Only for a wet-applied product, fill out the Total VOC Content.
- Provide an explanation of VOC-free tint availability in Content Notes if the answer to "Are VOC free tints available?" is Yes.

SECTION 2 - CONTENT IN DESCENDING ORDER OF QUANTITY:

- Provide an entry line for each intentional ingredient and known residual, except as allowed under **Rules for different types of products & ingredients** for combining hardware and electronics.
- All entries must either
    - meet the **Full Disclosure of Intentional Ingredients** requirements OR
    - meet the **Full Disclosure of Known Hazards** requirements OR
    - if not meeting either Disclosure requirement because the manufacturer does not know the identity or hazard of the ingredient, provide the Role and an explanation in the Ingredient Notes.

SECTION 3 - CERTIFICATIONS AND COMPLIANCE

- Only for any/all interior finish materials, fill out all items for VOC Emissions
- Only for any/all wet-applied materials, fill out all items for VOC Content

SECTION 4 - ACCESSORY MATERIALS

- Fill out for any/all additional products required by warranty or recommended by the manufacturer for installation or for maintenance, cleaning or operations. Separate individual HPD's are not mandatory.

SECTION 5 - NOTES

- Optional (No requirements)

Types of Disclosure

A key part of an HPD is the inventory of complete contents of the product as delivered for end use and the associated health hazards. For the inventory of contents, 100% disclosure of both content identity and health hazards is the ideal. The HPD Standard is designed, however, to acknowledge that while some manufacturers are ready and able to provide full disclosure, a number of limitations, including intellectual property concerns, technical capacity and supply chain communication gaps, make full disclosure challenging for some. In an effort to facilitate greater communication amongst all players in the building industry regardless of their position on this spectrum of disclosure, the HPD Standard supports a variety of threshold standards for disclosure of

- intentional ingredients,
- residuals, or
- hazard.

This section outlines the requirements for creating an HPD, the different intentional ingredient, residual and hazard disclosure types supported by the Template, and thresholds of disclosure that each type requires.

Note that users of HPDs will often require or give preference to HPDs that at least comply with the "Full Disclosure of Known Hazards" requirements which requires some level of Residuals Disclosure. Some users may also require or give preference to HPDs that comply with the "Full Disclosure of Intentional Ingredients" requirements.

Where any of these levels of disclosure is not yet possible, for example because information about components is not available from the supply chain, the Template may still be used as a mechanism to support clear communication between the manufacturer and users about what is known about the product and the status of efforts for further disclosure.

Regardless of the ultimate level of disclosure, all HPDs must at least comply with the "Complete HPD" requirements, as outlined above.

INTENTIONAL INGREDIENTS DISCLOSURE

Each discrete chemical, polymer, metal, bio-based material or other substance added to the product by the manufacturer or suppliers that exists in the product as delivered for final use requires its own line entry. This includes all ingredients that do not fall under the residual definition (see below) and additionally must account for over 99% of the total product. Note if using a polymer or other ingredient that has additives, the additives must be listed as well, whether the final manufacturer or an upstream supplier adds them. For intentional ingredients, the HPD Standard only has one threshold of disclosure:

- **Full Disclosure of Intentional Ingredients:** To achieve this level of disclosure, fill out all items for each intentionally added ingredient in the product:
    - Name: Common name or Brand name
    - CAS number: Chemical Abstract Services Registration Number (CASRN)2, if one exists, or genus and species for biobased ingredients
    - % weight: Fixed number or range:
    - Hazard & Warnings: All applicable health hazard warnings
    - GS: GreenScreen indicator
    - RC: Indication of whether there is any recycled content
    - Nano: Indication of whether the ingredient is a nanomaterial
    - Role: Function and/or location of the ingredient in the product

See the directions in Step-by-Step Guidance for Section 2 – Contents in Order of Quantity for more details.

RESIDUALS DISCLOSURE

Known trace substances remaining in the product from manufacturing steps (such as monomers or catalysts) or contaminants that come with raw materials must also be listed in an HPD. This may include residuals known from testing as well as those estimated as likely from assessment of process chemistry. If all ingredients that fall into the residual category sum to more

2 A Chemical Abstract Services Registration Number (CASRN or sometimes called simply CAS number) is 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.

than 1%, then the largest quantity ingredients are considered intentionally added and must be disclosed as such. The HPD Standard allows for several thresholds and processes for disclosure of residuals:

- **Measured to 100 ppm:** Measure and fully disclose all residuals that exist in the product at 100 ppm (0.01%) or greater. This is the current ideal for the HPD Standard. The Collaborative will consider setting lower levels for select chemical of highest concern, such as lead, in future versions of the Template.
- **Measured to 1000 ppm:** Measure and fully disclose all residuals that exist in the product at 1000 ppm (0.1%) or greater.
- **As reported by suppliers on MSDS:** Fully disclose all residuals that exist in the product based on current MSDS requirements. It is acceptable to rely on MSDS disclosure from suppliers rather than perform direct measurements. Residuals that are identified as health hazards as per CFR 1910.1200 are disclosed at 0.1% (1000 ppm) for carcinogens and at 1% (10,000 ppm) for all other substances. This will be aligned with GHS (Global Harmonized Standard of Chemical Classification and Labeling) in future versions of the Template.
- **Predicted from process chemistry:** Fully disclose projected potential residuals based upon process chemistry. This option is suggested for manufacturers without the capability of measuring actual residuals.
- **Other:** Data is based on a completely different protocol and has different thresholds for different substances and/or lower thresholds than any of those described above.

Only residuals that trigger a GreenScreen Benchmark 1 or Possible Benchmark 1 must be disclosed.

HAZARD DISCLOSURE

Whether the identity of each ingredient is fully disclosed or not, the HPD Standard requires disclosure of the health hazards associated with each ingredient to be considered complete. The HPD Standard identifies a minimum set of authoritative chemical hazard lists against which ingredients are required to be screened for health and environmental hazards. The Health Product Declaration Priority Hazard Lists and the warnings which must be included are listed in Appendix D – HPD Priority List Sources & E – HPD Priority List Warnings. The criteria by which the lists have been selected for the HPD are described in Appendix C – HPD Priority List Criteria. For hazard, the HPD Standard only has one threshold of disclosure:

- **Full Disclosure of Known Hazards:** A product may meet this level of disclosure even if it does not provide the identity of one or more ingredients due to intellectual property concerns of the manufacturer or their supply chain. Instructions are basically identical to those required for Full Disclosure of Intentional Ingredients (above), except for the lack of requirement to disclose names and CAS numbers. To achieve this level of disclosure, the HPD must meet one of the above thresholds for Residuals Disclosure AND all of the following items for each ingredient must be filled out as described:
    - Name: Common name or Brand name or “Unknown” or “Undisclosed”
    - CAS number: CASRN, if one exists, or genus and species for biobased ingredients or “Unknown” or “Undisclosed”
    - % weight: Fixed number or range
    - Hazard & Warnings: All applicable health hazard warnings
    - GS: GreenScreen indicator
    - RC: Indication of whether there is any recycled content
    - Nano: Indication of whether the ingredient is a nanomaterial
    - Role: Function and/or location of the ingredient in the product
    - Manufacturer note: Explanation of reason for the lack of disclosure

See the directions in Step-by-Step Guidance for Section 2 – Contents in Order of Quantity for more details.

Rules for Different Types of Products & Ingredients

Listing multiple products in a single HPD: A manufacturer may include more than one product in a single HPD if all of the information provided in Section 3 – Certifications and Compliance applies to all products included, and if:

- Each of the products has identical ingredients or
- The ingredient differences between the products account for 10% or less of the total mass of each product.

List all substances and their associated health hazards that are ingredients in any of the included products. Explain all variances between included products in Ingredient Notes within **Section 2 – Contents in Descending Order of Quantity** and/or in **Section 5 – Notes**.

Representing product systems that are made up of combinations of components: For product systems and assemblies where the purchaser may select varying combinations of components to mix and match (such as carpet or furniture), the manufacturer may choose to produce HPDs of components instead of the entire product. Clearly indicate in the Description what is and is not covered in this HPD and if this HPD is not a complete final product but instead represents a component of another complete product. At this time, however, to be considered complete, a final product HPD must include all ingredients in products provided by suppliers - such as the ingredients in an adhesive for a furniture product. The HPD Collaborative recognizes the challenges this poses for some complex products and will consider the use of component HPDs in future versions as the Technical Committee identifies mechanisms for data communication on the supply chain and defines protocols for rolling up ingredients and hazards.

Hardware: Groups of miscellaneous hardware, such as screws and gaskets, which are discrete components and in sum total less than 1% of the total product mass, may be combined into one single line entry instead of being individually itemized. This only applies to discrete hardware components that retain their form as they are added into the final product. Chemicals mixed into the product formulation such as a dye, flame retardant, biocide, binder, or applied on to the product such as a coating are specifically not included in this allowance and must be disclosed. This allowance also does not affect the requirement to disclose all intentionally added contents and to disclose known residuals down to 100 ppm in order for the product to be considered fully disclosed. So while an HPD using this option will not be fully disclosed, it will be considered a complete HPD.

Electronics: Electronic components often include materials which have substantial hazards in use and throughout their life cycle. We recognize, however, that electronics are often highly complex mixtures of ingredients with a long and complicated supply chain. Characterizing them at the level anticipated for other ingredient by the HPD Standard may be a serious obstacle for a building product manufacturer. Pending development of HPDs for building product electronic components, including circuit boards, displays and related wires and connectors in a product may be combined into one single line entry instead of being individually itemized. Cases for electronic components should still be listed separately. An HPD using this option will not be fully disclosed, it will be considered a complete HPD.

Accessories & dilutants: Items recommended or required to install or apply the products, including dilutants, which are not packaged with the product as delivered must be listed in Section 4 – Accessory Materials.

STEP-BY-STEP GUIDANCE

Section 1 – Summary

This section provides overall information about the product. It also summarizes the information that is provided in Section 2 – Contents in Descending Order of Quantity and Section 3 – Certifications and Compliance.

Product Identification

Name: Provide the product brand name. If the HPD covers multiple brands list the others in the Description. See above for rules on covering similar products and product lines in one HPD.

Product ID: Provide the ID number of the product or product line covered by this declaration. If the HPD covers multiple IDs list the others in the Description. See above for rules on including similar products and product lines in one HPD.

Classification: Provide the identifier associated with the product, such as the primary section number specified to classify work results for construction practices. (e.g. CSI MasterFormat, Uniclass, NBS, NATSPEC) Additional identifiers may be listed in the Description.

Website: Provide a link to the website for information specific to the product. Provide the complete URL link beginning with http://.

Manufacturer Contact information

Manufacturer: Provide the complete name of the company that manufactures the final product. If this company is a subsidiary, include the parent company in the Description.

Address, Address Line 2, City, State, Code: Provide the manufacturer's complete main street address.

Contact Name: Provide the name of the manufacturer contact person responsible for the preparation of the HPD.

Title: Provide the title of the manufacturer staff person responsible for the preparation of the HPD.

Phone: Provide the phone number for the manufacturer staff person responsible for the preparation of the HPD.

Email: Provide the email address for the manufacturer staff person responsible for the preparation of the HPD.

Product Description

Description: Describe the product briefly. Indicate if the product is part of a system or assembly and describe what is included in this HPD. Indicate any special use considerations, for example, traffic level requirements for a flooring product. Extended descriptions can be continued in **Section 5 – Notes**. Optionally include additional specification references or other workflow identification numbers, such as UniClass here. Include the parent company name here if applicable.

Declaration Dates and Certification

Release Date: This date cannot be over three months after the contents were reviewed for hazard warnings. If more than this amount of time passes before the HPD is complete, the review for hazard warnings must be refreshed.

Expiry Date: Expiration date must be no more than 3 years after the Release Date.

Self-declared, Second Party, Third Party: Identify the type of certifying party, if any that is attesting to this Declaration.

- Self-declared: manufacturer self-declared claim (1st party)
- Independent lab: manufacturer self-declared claim using an independent lab and with a declaration of conformance.
- Second Party: claim certified by a trade association or other interested party.
- Third Party: claim certified by an independent third party or audited/inspected by a government agency.

Certifier: Provide the name of the organization that is certifying the Declaration. If self-declared, state "N/A"

Certificate Number: Provide the certifying organization's identifier for the certification of the Declaration. If self-declared, state "N/A"

HPD URL: Provide the website where the most up to date version of this completed HPD is available. Use bit.ly or another tool to reduce the length of the website URL.

The content of this product was assessed for health hazard warnings as required using: Provide the name of the source database used to screen ingredients and residuals against the HPD Priority Lists Provide the name of the source database or service provider used to screen ingredients and residuals against the HPD Priority Lists for hazard warnings. Provide a website reference for the database in the Disclosure Notes. .

Residuals disclosure: Select the threshold by which the manufacturer is disclosing known residual contaminants in this HPD. The ideal is to disclose all residuals to 100 ppm or lower. Explain in Disclosure Notes what testing and/or estimation protocols are used to identify residuals. The form provides five options to describe the threshold used:

- Measured 100 ppm (ideal): Manufacturer measures and has disclosed all residuals that exist in the product at 100 ppm (0.01%) or greater that trigger a GreenScreen Benchmark 1 or Possible Benchmark 1.
- Measured 1000 ppm: Manufacturer measures and has disclosed all residuals that exist in the product at 1000 ppm (0.1%) or greater that trigger a GreenScreen Benchmark 1 or Possible Benchmark 1.
- Predicted by process chemistry**:** Manufacturer projects and has disclosed all potential residuals that trigger a GreenScreen Benchmark 1 or Possible Benchmark 1 based upon process chemistry. Indicate the tool or other basis for the prediction in the Disclosure Notes. The HBN Pharos tool is an example of a tool that predicts potential residuals.
- As per MSDS (10,000 ppm): Manufacturer has disclosed all residuals that exist in the product as required by current MSDS requirements. Manufacturer may rely on MSDS disclosure from suppliers rather than direct measurement. Residuals that are identified as health hazards as per CFR 1910.1200 are disclosed at 0.1% (1000 ppm) for carcinogens and at 1% (10,000 ppm) for all other substances.
- Not disclosed: Manufacturer does not know what residuals exist in the product or knows residuals but has chosen not to disclose them. Explain why the manufacturer is not disclosing residuals now and plans to disclose them in the future in the Disclosure Notes.
- Other: If the manufacturer follows a protocol which meets and exceeds any of the above listed protocols, indicate that protocol and explain how the manufacturer's protocol exceeds it in the Disclosure Notes. If the Manufacturer is following a completely different protocol than those described above with lower or mixed threshold levels, check this item and explain in the Disclosure Notes,

Full Disclosure of Intentional Ingredients: Indicate "Yes" only if all intentionally added ingredients are fully disclosed as per the requirements of "Full Disclosure of Intentional Ingredients" under the Intentional Ingredients Disclosure section above.

Full Disclosure of Known Hazards: Indicate "Yes" only if all health hazards for all contents - both intentionally added ingredients and known residuals – are disclosed as per the requirements of "Full Disclosure of Known Hazards" under the Hazard Disclosure section above. Indicate "No" if any ingredients or residuals are not known or their hazards not disclosed for any reason, including an exemption**.** Full hazard disclosure is required for an HPD to be considered complete, except as exempted when the manufacturer has been unsuccessful in obtaining information about ingredients and/or hazards from the ingredient supplier.

Disclosure Notes: Explain any "No" answers from above and provide any further explanations of the residuals disclosures or health hazard warning assessment as needed**.**

Contents in Descending Order of Quantity: This information should auto populate in the HPD Template and all HPD tools, listing the name of all contents, both intentionally added and residuals, in order of decreasing quantity to match the data entries in Section 2 – Contents in Descending Order of Quantity.

Hazards: This information should auto populate in the HPD Template and all HPD tools, listing each of the possible hazard endpoints screened for in the HPD (see Appendix B – HPD Priority Endpoints) to match the data entries in Section 2 – Contents in Descending Order of Quantity.

Highest Concern GreenScreen Score: This information should auto populate in the HPD Template and all HPD tools, indicating the overall highest concern GreenScreen Benchmark from the data entries in Section 2 – Contents in Descending Order of Quantity. (The order from highest to lowest concern is: Benchmark 1; Possible Benchmark 1; Unspecified; Benchmark 2; Benchmark 3; and Benchmark 4.)

Total VOC (Volatile Organic Compound) Content: Only complete this section for all liquid/wet applied products. Indicate "N/A" (Not applicable) in all entries for products that are not liquid/wet applied.

Material (g/L): Provide the Material VOC content as the product is supplied. This is sometimes referred to as "VOCs as supplied" or "Applied VOC." If the product is not liquid/wet applied, indicate "N/A".

Regulatory (g/L): Provide the Regulatory VOC content, also referred to as "Coating" content, which compares nonexempt VOCs against non-exempt volume (water is not included).[3] If the product is not liquid/wet applied, indicate "N/A".

Does the product contain exempt VOCs?: If the product includes any VOCs that are exempted by EPA from regulatory reporting and therefore will not be included in the VOC content totals,[4] indicate "YES". If there are no EPA exempt ingredients, indicate "NO". If the product is not liquid/wet applied, indicate "N/A".

Are VOC-free tints available?: If tintable and tints with no organic solvents added are available through distributors for this product, resulting in the addition of less than 5 g/l of VOC content[5] for any combination of tints, indicate "YES." Provide the name of the tinting system and how to obtain it in Content Notes. If such tints are not generally available from distributers of this paint, indicate "NO". If this product is not tintable, indicate "N/A".

Certifications and Compliance: This information should auto populate in the HPD Template and all HPD tools, listing the type and name of six data entries from the Section 3 – Certifications and Compliance. Include VOC Emissions and VOC content whether completed or not.

Section 2 – Contents in Descending Order of Quantity

List all contents, intentional ingredients and residuals from previous manufacturing or extraction processes. List ingredients in order from largest to least percentage of the product. The HPD Standard requires an entry for every ingredient, whether intentionally added or a trace residual. See **Rules for Different Types of Products & Ingredients for** exceptions, etc.

Ingredient Name: Provide a specific, common name for the ingredient.

- For Full Disclosure of Intentional Ingredients status, the name must be provided.
- If the entry is a biobased ingredient, provide both a common name and in parenthesis, the genus and species if known.
- If the entry is a mixture of hardware elements as defined above under "Rules for different types of products & ingredients", enter "Mixed hardware".
- If the entry is a mixture of electronic elements into one entry as defined above under Rules for different types of products and ingredients, enter "Electronics".
- If the manufacturer chooses to not disclose the common name, indicate "Undisclosed" and provide instead a generic name or chemical class in parenthesis. Explain the rationale for not disclosing the actual name in the Ingredient Notes.

CAS number: Provide the Chemical Abstract Service Registration Number (CASRN or CAS number)

- If more than one CAS number has been assigned to this substance, list other relevant CAS numbers in the Ingredient Notes.
- If no CAS number has been registered for this substance, indicate "Not registered". Otherwise, for Full Disclosure of Intentional Ingredients status, the CASRN must be provided if one exists.
- If manufacturer knows the CAS number and chooses to not disclose, indicate "Undisclosed" and explain the rationale for non-disclosure in the Ingredient Notes.
- If manufacturer does not know the chemical identity, indicate, "Unknown" and explain why it is unknown and manufacturer efforts to identify it in the Ingredient Notes.
- If the entry is hardware elements that sum to less than 1% of the product content total or an electronics component as defined above, and the chemical identity is unknown or suspected to be multiple substances, indicate "Mixed."

% Weight: List this ingredient's percentage of the final product by weight to at least one decimal place (e.g. 10.1%). A fixed percentage is preferred wherever possible, but a percentage range may be provided where necessary (e.g., 3.0 –

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3 This is the measure used by many regulatory agencies such as SCAQMD. It is generally higher than "material" or "as supplied" VOC content.

4 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 smog formation, but which may be hazardous for human health if inhaled. The US EPA list of exempted chemicals is listed in Code of Federal Regulations (CFR) Title 40, Section 51.100 , subsection (s)(1).

5 The 5 g/l threshold is used recognizing that true zero VOC products may be impossible as even tap water has measurable trace VOCs. SCAQMD have used the 5 g/l cutoff in advisories (e.g. SCAQMD Rule 314 Fees for Architectural Coatings)

14.5%) or an average or typical fixed percentage with the actual range described and explained in the Ingredient Notes. A fixed percentage entry or range is required for Full Disclosure of Intentional Ingredients. Ranges should not exceed 20%. If a range does exceed 20%, the reason for the large range must be described in the Ingredient Notes to be considered fully disclosed.

- Ranges - variable amounts over time: If the percentage of the ingredient varies over time due to market availability, pricing or other issues, describe why the range varies in the Ingredient Notes.
- Ranges – similar products: If the HPD is being used to cover several products that are generally similar in content but differ in the percentages of some ingredients, describe why the percentages changes for the different product variants encompassed in this HPD in the Ingredient Notes. See above "**Listing multiple products in a single HPD**" for further guidance on combining multiple similar products in one HPD.
- Ranges – masking trade secrets: If the manufacturer is using a range instead of a fixed percentage in order to mask the actual formula for IP purposes, explain the IP concern in the Ingredient Notes and indicate if it is a time limited concern, such as until completion of patent proceedings.
- Residuals: For contents that are considered to be residuals as defined in **Residuals Disclosure** on page 5 of this Standard, it is permissible to enter "Residual" instead of the actual percentage or percentage range.
- Not Disclosed: If the percentage is not disclosed, indicate "Not Disclosed" and explain in the Ingredient Notes why it is not disclosed. A fixed percentage or range is required for an ingredient to be considered fully disclosed.
    - Alternate ingredients: If the entry is used as an alternate ingredient to the previous ingredient (such as different species of wood used on a wear layer of a laminate), indicate "Alternate". As long as the previous ingredient for which it is an alternate has disclosed a percent or range use of the "alternate" is sufficient for disclosure of percentage for this ingredient.

GS: GreenScreen:

- If an ingredient has received a full **GreenScreen assessment**, list the Benchmark result of the GreenScreen assessment under GS.
- Otherwise, provide the highest concern GreenScreen Benchmark using the List Translator Indicator for the warnings associated with this ingredient as referenced in Appendix E – HPD Priority List Warnings. The order from highest to lowest concern is: Benchmark 1; Possible Benchmark 1; Unspecified; Benchmark 2; Benchmark 3; and Benchmark 4.

RC: Recycled content

- If the ingredient includes post-consumer recycled content, indicate "PC" - See definition under Appendix G – Terminology. Leave blank if none.
- If the ingredient includes post-industrial (pre-consumer) recycled content, indicate "PI" in the RC entry. See definition under Appendix G – Terminology.
- If the ingredient does not include any recycled content, indicate "No".
- For each ingredient with recycled content, list in Ingredient Notes the type of product(s) from which the recycled content is obtained. For example, for recycled HPDE, describe if it is sourced from recycled milk bottles, grocery bags or other products. Required to be considered fully disclosed.

Nano: Select "Yes" if the chemical or material is a nanomaterial (see definition under Appendix G – Terminology), "No" if not, or "Unk" if unknown. A "Yes" or "No" is required to be considered fully disclosed.

Role: Briefly state each ingredient's reason for inclusion in the product – its function, such as: "binder", "anti-microbial", "flame retardant", "wear layer", "catalyst", "preservative", etc. This can include indication of whether an ingredient is in a particular component, such as the face fiber or backing of a carpet as well as its role. For example, "face fiber: antimicrobial" or "MDF: binder" Further explanation of a particular ingredient, including exposure issues can be included in Note (adjacent). *Please note the HPD Collaborative is considering developing standard terminology for use in this section in future releases.*

Hazard (A-E) and Warning (A-E): List health hazards & warnings associated with this ingredient on any of the Health Product Declaration Priority Hazard Lists. The lists required to be reviewed are listed in Appendix D – HPD Priority List Sources and the associated warnings that must be disclosed are listed in Appendix E – HPD Priority List Warnings. This is the most important part of the ingredient listing and must be completed, including for undisclosed ingredients.

- **Finding Priority Hazard lists**: The manufacturer may look up the lists directly through the URLs provided in Appendix D – HPD Priority List Sources or may choose to lookup the hazard information in an automated hazard list compilation. This compilation may be an internally developed resource of the manufacturer's or an externally provided tool such as the Pharos Chemical and Material Library.

- **Criteria for compilation tools or services used to fill out the HPD:** Any compilation used to identify hazard warnings for an HPD should include all required hazard warning information from each of the required authoritative hazard lists in the HPD Priority Hazard Lists. If it does not, the manufacturer is responsible for addition of information from missing lists. Manufacturer should confirm this with the service provider before use. The hazard list compilation provider must update the information in the compilation at least annually. A list of service providers who compile authoritative hazard lists will be provided on the HPD Collaborative website www.hpdcollaborative.org.

- If the substance is **not listed on any of the Priority Lists**, then search by synonyms as well as CASRN to find listings of the virtually same chemical with a different CASRN that is listed. If still not found, then.
  - Indicate "None found" for the Hazard entry.
  - Indicate "No warnings found on HPD Priority Lists" for the Warnings entry.

- If an ingredient is **listed on any of the Priority Lists**:
  - The Priority List Hazard Warnings are listed in the Table in Appendix E – HPD Priority List Warnings and indicate to the items required in this section. The hazard list compilation you are using should also provide directions for the items required here.
  - Indicate the **Hazard Type** for the Hazard entry
  - Indicate the **Agency/List Abbreviation** in the Warning entry followed by a semicolon ":"
  - Add the **Hazard Warning** in the Warning entry. When a Priority list has multiple categories, the Hazard Warning reflects the list's category names. For simple lists that do not have multiple categories, the Hazard Warning reflects the title of the list.
  - Indicate the appropriate **GreenScreen Benchmark** abbreviation in the GS (GreenScreen) entry.

    By example, the entry for an ingredient with the warning: "***EC - REACH Substances of High Concern (EU SVHC) (Cancer) Carcinogenic - Banned unless authorized*** will be:

    Hazard = ***Cancer***, Warning = ***EU SVHC: Carcinogenic - Banned unless authorized***. and GS = ***BM1***

    The Full List Title will be spelled out in the Priority Hazard Lists section at the end of the Template.

- If an ingredient is **listed on more than one of the Priority Lists** for a single Hazard Type, such as cancer:
  - Find the list with the GreenScreen Benchmark of highest concern if any as per the GreenScreen List Translator, and indicate the appropriate GreenScreen Benchmark abbreviation in the "GS" (GreenScreen) entry. P1 (Possible Benchmark 1) is higher than U (Unspecified) and BM1 (Benchmark 1) is higher than P1 (Possible Benchmark 1)
  - Provide the Agency/List abbreviation and Hazard Warning for one of the listings with the highest GreenScreen Benchmark. If one or more of the lists for this Hazard Type is a GreenScreen Benchmark 1, then provide one of the Benchmark 1 listings. If none are Benchmark 1 but at least one is Possible Benchmark 1, provide one of the Possible Benchmark 1 listings. On the same line, include in parenthesis "also in" followed by the Agency/List Abbreviation for the other listings

- If the ingredient is **listed on one or more of the lists for more than one Hazard type** make a separate line for each health endpoint. All GreenScreen Group I Human health effects must be separately displayed including Carcinogenicity (Cancer in the HPD, Mutagenicity/Genotoxicity (Gene Mutagen in the HPD), Reproductive Toxicity (Reproductive in the HPD), Developmental Toxicity and Developmental Neurotoxicity (Developmental in the HPD) and Endocrine Activity (Endocrine in the HPD).
- If there are **more than five (5) health effects**, the non-Group I effects may be replaced with "Multiple" in the Hazard entry and a listing of the hazard types in the Warnings entry.

- **Exceptions on Health hazards.** Warnings, if any, must be provided for all ingredients, regardless of whether the manufacturer discloses the exact name and CAS number of the substance. Trade secret status is not a reason to avoid disclosure of the relevant health warnings. Note that a disclosure of health warnings without either CAS numbers or third party verification is less likely to be trusted by end users. An ingredient cannot be considered fully disclosed and so the product cannot meet the requirements for **Full Disclosure of Known Hazards** unless health hazards are disclosed as required in this section. There are only three exceptions to this rule:
  - **The chemical identity of the ingredient is proprietary to a supplier and** neither the identity nor the health hazards have been disclosed to the manufacturer. In this case, indicate "Unknown" under Hazard and "Not disclosed by supplier" under Warnings and indicate in Ingredient Notes the status of efforts to learn the identity or health hazards from the supplier in order for the HPD to be considered complete.

- **The entry is hardware that sums to less than 1% of the product content** total as defined above and the chemical identity is known or suspected to be multiple substances, indicate, "Unknown" under Hazards and "Mixed hardware under 1% not assessed for hazard" under Warnings.
- **The entry is electronic components** as defined above and the chemical identity is known or suspected to be multiple substances, indicate "Unknown" under Hazard and "Electronics not assessed for hazard" under Warning.
- An HPD which uses any of these exemptions may be considered a complete HPD but the ingredient entries will not be considered fully disclosed and their hazards not disclosed hence the answers will be "No" to both Full Disclosure of Intentional Ingredients and Full Disclosure of Known Hazards.

- **Positive/Green listings:** The HPD can be used not only for red list hazard warnings, but also to indicate when a chemical has been positively assessed or green-listed as a lower hazard substance by a system such as the GreenScreen for Safer Chemicals. The GreenScreen is used in the HPD for identifying highest hazard warnings, but most importantly is also a protocol for benchmarking chemicals for inherent safety. If GreenScreen assessments have been completed on an ingredient, or ingredients have been assessed against another safety benchmarking system, the manufacturer is encouraged to indicate that in the Warning entry. For example:
  - If an ingredient has received a full **GreenScreen assessment** (See Appendix G – Terminology), indicate "GreenScreen Benchmark by [name of the organization]" under Warning. Leave the Hazard entry blank. Add a website reference to the publication describing the assessment in the Ingredient Notes.
  - If an ingredient is listed on the US EPA's Design for the Environment (DfE) Safer Chemical Ingredients List, indicate "Identified on the US EPA DfE Safer Chemical Ingredient List" under Warning.

Ingredient Notes:

- If the ingredient identity is not disclosed because it is considered an important **trade secret,** indicate the rationale and indicate if there is a time horizon for the non-disclosure, such as a pending patent application filing or other limited time intellectual protection or market advantage issue.
- If the ingredient **identity is not disclosed because of a non-disclosure agreement (**NDA) with the supplier, note the existence of the NDA and if there is a time limit on it.
- If the ingredient identity is not disclosed because the **manufacturer does not know the chemical identity**, explain why it is unknown and manufacturer efforts to identify it.
- If the ingredient can be referred to by **multiple CAS numbers**, list additional ones here.

Section 3 – Certifications and Compliance

Independent certifications provide important assurances for key characteristics. For certain product categories for which there are well established certification programs, manufacturers must indicate if the product is certified. The HPD Standard requires indication of certain types of certification information for designated product types for VOC emissions, VOC content, and recycled content. This section can include other types of health or environmental performance testing that the manufacturer wishes to disclose as well.

General requirements:

- **VOC Emissions**: An entry is required for VOC emissions testing and certification for any product for which the current version of the CDPH Standard Method provides an emissions scenario, whether the product has been tested or certified or not. See "interior products as per CDPH" under Appendix G – Terminology for more information.
- **VOC Content**: An entry is required for VOC content standard or certification for all wet/liquid applied products, interior or exterior, such as paints, adhesives and other coatings. It is not relevant and hence not required for non-wet/liquid applied products.
- **Recycled Content**: An entry is required for recycled content certification information if any claim of recycled content is made for an ingredient in **Section 2 - Contents in Descending Order of Quantity**.
- **Other**: Optional. Provide other types of health or environmental performance testing completed on the product. Multi attribute certifications that do not apply to the lines above may be listed here, such as Cradle-to-Cradle or SMART

Building and other non-product specific rating program claims: The HPD Standard does not currently provide a specific structure for making claims about a product's conformance with rating program requirements for programs, such as the Living Building Challenge℠ Materials Red List or LEED® Materials and Resources and Environmental Quality Credits. Any manufacturer claims about a product's compliance with a rating system's requirements such as these should be listed in

Section 5 – Notes. All claims should be very explicit about the specific applicable credit or requirement, the applicable program version and any special conditions of compliance.

Standard or Certification

- Provide the name of the standard or certification program, such as Indoor Advantage Gold, FloorScore or GreenGuard Children & Schools. Third party certifications are ideal, but the manufacturer may also use this space to indicate a self-declared claim of adherence to a standard. Provide the name of the standard here, such as SCAQMD Rule 1113.
- A multi attribute point based program, such as MTS SMART Building Product Standard, may only be used to address the VOC Emissions or the VOC content or the Recycled Content entry if either:
  - The program level attained requires a certain minimum level of performance (e.g., - ANSI/NSF 140-2007e – Gold for VOC Emissions) OR
  - The certifier or manufacturer publishes the scorecard for the program indicating that the product did meet a required level of VOC emissions avoidance (e.g., the MTS SMART Building Product Standard if the Minimize Indoor Air Criterion has been met for VOC emissions).

- For **VOC emissions**:
  - Provide, in parentheses after the name of the certification, the building type scenario under which the product was qualified (e.g., office, school, or residential). Residential is most rigorous and hence the ideal. Also include any other special qualifications to the certificate such as "formaldehyde free")
  - If a VOC emissions test is not applicable, that is there is no CDPH criteria for testing the product category, indicate "N/A".
  - If the product meets LEED® qualifications for an "inherently non-emitting source" and hence does not require testing, indicate "Inherently non-emitting source per LEED®". See Appendix G – Terminology for definition.
  - If this is a product for which there is a CDPH criteria, but testing has not yet been undertaken, indicate "Not tested". If the manufacturer is in the process of having the product tested, explain in Certification & Compliance Notes when testing or certification results should be available

- For **VOC content**, wet applied products, if the VOC content has not been third party certified and there is no standard that the product meets, indicate "none" on the VOC content line. If the product is not wet applied, indicate "N/A"

- For **recycled content**, if there is a recycled claim but no certification, indicate "none" on the recycled content line.

Certifier or Laboratory: If this item is describing a second or third party certification, provide the name of the certifying body and the laboratory. For a self-declared claim using an independent laboratory, provide the name of the laboratory that did the testing. If no outside testing was done to validate the manufacturer claim, indicate "None".

Certifying party: Select the type of certifying party that is attesting to this claim:

- Self-declared: manufacturer self-declared claim
- Second Party: claim certified by a trade association or other interested party.
- Third Party: claim certified by an independent third party or audited/inspected by a government agency. A test result from an independent outside laboratory does not qualify the claim as third party certified. The chain of custody and adherence to the standard must be approved by a third party certifier to qualify. Use a Manufacturers' Certificate of Conformity to improve first party claims made using independent lab.

Issue Date: Provide the date for the certification or test. Leave blank when there is no date, as in for a self-certified claim with no independent lab test.

Expiry Date: Provide the expiration date for the certification or test. Leave blank when there is no date as in for a self-certified claim.

Certificate URL: Provide the complete URL website link for the documentation of the certification, if any, beginning with "http://"

- For third party certifications, provide link to the third party certificate
- For self-declared claims provide a link to the Manufacturer's Certificate of Conformity. See Appendix F - Manufacturer's Certificate of Conformity for more information.
- For all claims, the certificate must list the actual product names for which this 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 becomes a self-declared claim and must be accompanied by a Manufacturer's Certificate of Conformity. See Appendix F – Manufacturer's Certificate of Conformity.

Applicable Facilities: List the specific manufacturing facilities for which the standard or certification applies. Where all of the manufacturer's facilities are covered by this standard or certification, indicate "All".

Certification & Compliance Notes: Indicate if this certification or standard applies only to a part of the product or any other needed explanation.

Section 4 – Accessory Materials

List all additional products required by warranty or recommended by the manufacturer for installation (such as adhesives, fasteners, field coatings and all dilutant options) or for maintenance, cleaning or operations.

Required or recommended product: Provide the name of the product. For wet applied products, such as an adhesive or a dilutant, list the typical total VOC content in parenthesis after the name of the product.

URL for companion Health Product Declaration: Provide the complete URL website link for an HPD for the accessory product beginning with http://. If not available, enter "No HPD available."

Condition when required or recommended and/or other notes: Indicate under what conditions the product is required or recommended, such as for all installations, or just for outside installations, or during routine maintenance.

Section 5 – Notes

Use this section to provide additional explanations that are not covered by the section specific Notes. Describe and reference any alternative systems used to screen for health hazards.

The HPD Standard does not currently provide a specific structure for making claims about a product's conformance with specific building assessment program requirements, such as the Living Building Challenge℠ Materials Red List or LEED® Materials and Resources and Environmental Quality Credits. Any manufacturer claims about a product's compliance with a building assessment requirement should be listed here. All claims should be very explicit about the specific applicable credits, the applicable program version and any special conditions of compliance.

The manufacturer may provide information about the exposure and risk (such as description of how certain ingredients with hazard warnings are included in the product and what that might mean for availability of the hazard) or other issues that they feel may be relevant to help the specifier or end user further interpret health hazard warnings explained in other sections.

APPENDIX A – HPD TEMPLATE

Name	
Product ID	Classification
Website	
Manufacturer	Contact Name
Address	Title
Address Line 2	Phone
City, State, Code	Email

Description

Release Date	☐ Self-declared		
Expiry Date	☐ Second Party	Certifier	
HPD URL	☐ Third Party	Certificate #	

SUMMARY

The content of this product was assessed for health hazard warnings as required using

Residuals Disclosure	Full Disclosure of Intentional Ingredients	☐ Yes	☒ No
☐ Measured 100 ppm (ideal)	Full Disclosure of Known Hazards	☐ Yes	☒ No
☐ Measured 1000 ppm	Disclosure Notes		
☐ Predicted by process chemistry			
☐ As per MSDS (1,000 & 10,000 ppm)			
☐ Not disclosed			
☐ Other			

Contents in Descending Order of Quantity (if the area below is full, refer to the following pages for additional listings)

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Hazards

Highest concern GreenScreen score - no ingredients benchmarked

☐ PBT *(Persistent and Bioaccumulative Toxic)*	☐ Development	☐ Neurotoxicity	☐ Land toxicity	☐ Multiple
	☐ Reproductive	☐ Mammal	☐ Physical hazard	☐ Unknown
☐ Cancer	☐ Endocrine	☐ Skin or Eye	☐ Global warming	
☐ Gene mutation	☐ Respiratory	☐ Aquatic toxicity	☐ Ozone depletion	

Total VOC Content

Material (g/l)	Does the product contain exempt VOCs?	☐ N/A	☐ Yes	☐ No
Regulatory (g/l)	Are VOC-free tints available?	☐ N/A	☐ Yes	☐ No
Content Notes				

Certifications and Compliance (if the area below is full, refer to the following pages for additional listings)

VOC Emissions

VOC Content

The HPD Standard is solely a declaration of product content and direct health hazards associated with exposure to its individual contents. It is not a full assessment of environmental impacts from the life cycle of this product. It is not an assessment of risks associated with actual use of the product. It does not address the potential health impacts of substances used or created during manufacture that do not appear in the final product as residuals, nor substances created during combustion or other degradation processes.

This Health Product Declaration was generated following the requirements of the noted Standard version and is valid for a total of three years after date of issue or three months after a substantive change of product contents occurs. Users should verify that this Health Product Declaration is compliant with the most current version of the HPD Standard. Accuracy of claims made in this Health Product Declaration is the sole responsibility of the listed manufacturer and certifier (if applicable). The HPD Collaborative does not warrant any claim made herein, explicit or implicit. The HPD Standard is an "open standard" developed and managed by the HPD Collaborative, a nonprofit organization. For more information, visit hpdcollaborative.org.

CONTENT IN DESCENDING ORDER OF QUANTITY

All ingredients must be assessed for health warnings against Priority Hazard Lists, regardless of disclosure level.
Priority Hazard Lists and information on the GreenScreen Benchmarks can be found at www.hpdcollaborative.org/hazardlists.

GS: GreenScreen Benchmark; RC: Recycled Content, PC: Post Consumer, PI: Post Industrial (Pre-consumer), BO: Both post industrial and post consumer; Nano: comprised of nanoscale particles or nanotechnology.

Ingredient Name		CAS number	% Weight	GS	RC	Nano	Role
Hazard A	Warning A						
Hazard B	Warning B						
Hazard C	Warning C						
Hazard D	Warning D						
Hazard E	Warning E						
Notes							

CERTIFICATIONS AND COMPLIANCE

Certifying Party **=** ***Self declaration****: Manufacturer's self-declaration;* ***Independent lab****: Manufacturer's self-declaration using results from an independent lab and declaration of conformance.* ***Second Party:*** *Verification by trade association or other interested party;* ***Third Party:*** *Verification by independent certifier (ideal).*
Applicable facilities **=** *Manufacturing sites to which testing applies.*

Type	Standard or Certification			Certifier or Laboratory
	Certifying Party	Issue Date	Expiry Date	Certificate URL
	Applicable Facilities			Certification & Compliance Notes
VOC Emissions *(interior products only)*				
VOC Content *(wet applied only)*				
Recycled Content				
Other				
Other				
Other				
Other				
Other				
Other				
Other				

ACCESSORY MATERIALS

This section is for additional products required by warranty or recommended by the manufacturer for installation (such as adhesives, fasteners, or factory coatings) or for maintenance, cleaning, or operations. Refer to Health Product Declarations, published separately, for a complete view of these products. Note: This declaration is not intended to address hazards of the installation process.

	Required or recommended product	URL for companion Health Product Declaration
	Condition when required or recommended and/or other notes	
01		
02		
03		
04		
05		
06		
07		
08		
09		
10		
11		
12		
13		
14		

NOTES

Agency/List Abbreviation	Full List Title	Hazard Issuing Agency	URL
AOEC	AOEC Exposure Codes - Asthmagen List	Association of Occupational and Environmental Clinics	www.aoec.org/tools.htm
DSL	Canadian Environmental Protection Act (CEPA) - Environmental Registry - Domestic Substances List (DSL)	Environment Canada & Health Canada	www.ec.gc.ca/CEPARegistry/subs_list/dsl/dslsearch.cfm
EPA Action	Chemicals of Concern Action Plans	US Environmental Protection Agency	www.epa.gov/oppt/existingchemicals/
EPA PBT	Priority PBT Profiles	US Environmental Protection Agency	www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
EPA-C	Integrated Risk Information System Database (IRIS)	US Environmental Protection Agency	www.epa.gov/ncea/iris/search_human.htm
EPA-GW	Global Warming Potentials of Ozone Depletors and Substitutes	US Environmental Protection Agency	www.epa.gov/ozone/geninfo/gwps.html
EPA-ODS	Ozone-Depleting Substances (ODS) Class I & Class II	US Environmental Protection Agency	www.epa.gov/spdpublc/science/ods/index.html
EU CMR(1)	Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) Dangerous Substances Directive (DSD) REACH Annex XVII	European Commission	eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:136:0003:0280:EN:PDF
EU CMR(2)	Regulation on the Classification, Labelling and Packaging of Substances and Mixtures (CLP) CMR GHS Categories	European Commission	http://ec.europa.eu/enterprise/sectors/chemicals/classification/index_en.htm
EU ED	EU Community Strategy for Endocrine Disrupters - Priority List	European Commission	ec.europa.eu/environment/endocrine/strategy/substances_en.htm
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.europa.eu/enterprise/sectors/chemicals/documents/classification/
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.europa.eu/environment/ozone/controlled_ods.htm
EU PBT	European chemical Substances Information System (ESIS) - PBT List	European Commission	esis.jrc.ec.europa.eu/index.php?PGM=pbt
EU R-Phrases	Substances with EU Risk & Safety Phrases (Commission Directive 67-548-EEC)	European Commission	ec.europa.eu/enterprise/sectors/chemicals/documents/classification/
EU SVHC	Substances of Very High Concern for authorisation - REACH Annex XIV	European Commission	echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
G&L Neuro	Developmental neurotoxicity of industrial chemicals, List of 201 Chemicals known to be neurotoxic in man	Lancet: authors Philippe Grandjean & Phil Landrigan	not available
IARC	Monographs On the Evaluation of Carcinogenic Risks to Humans	International Agency for Research on Cancer, World Health Organization	monographs.iarc.fr/ENG/Classification/index.php
MAK	Occupational Toxicants and MAK Values: Annual Thresholds and Classifications for the Workplace	MAK Commission of Germany	http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/structure/working_groups/derivation_mak/index.html
NIOSH-C	NIOSH Carcinogen List	US Centers for Disease Control, National Institute of Occupational Safety and Health	www.cdc.gov/niosh/topics/cancer/npotoca.html
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	cerhr.niehs.nih.gov/chemicals
NTP-RoC	National Toxicology Program (NTP) 12th Report on Carcinogens	US Dept of Health & Human Services	ehis.niehs.nih.gov/roc
NWMP Priority	National Waste Minimization Program Priority Chemicals List	US Environmental Protection Agency	www.epa.gov/epawaste/hazard/wastemin/priority.htm
OR P3	Priority Persistent Pollutant (P3) List	State of Oregon Department of Environmental Quality	www.deq.state.or.us/wq/SB737
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	www.ospar.org/content/content.asp?menu=00940304440000_000000_000000

Agency/List Abbreviation	Full List Title	Hazard Issuing Agency	URL
Prop 65	Chemicals Known to the State to Cause Cancer or Reproductive Toxicity - California Proposition 65	State of California Environmental Protection Agency	www.oehha.ca.gov/prop65/prop65_list/Newlist.html
San Antonio	San Antonio Statement on Brominated and Chlorinated Flame Retardants	Environmental Health Perspectives	ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.1003089
SIN	SIN (Substitute It Now) List	ChemSec, The International Chemical Secretariat	www.chemsec.org/list
Stockholm	Stockholm Convention on Persistent Organic Pollutants (POPs) - Annex A, B & C and under Review	United Nations Environment Programme	chm.pops.int/Convention/ThePOPs/tabid/673/language/en-US/Default.aspx
TEDX	TEDX List of Potential Endocrine Disruptors	The Endocrine Disruption Exchange (TEDX)	www.endocrinedisruption.org
TRI PBT	TRI PBT Chemical List	US Environmental Protection Agency	www.epa.gov/triinter/trichemicals/pbt%20chemicals/pbt_chem_list.htm
VwVwS	Administrative Regulation on the Classification of Substances hazardous to waters	German Federal Environment Agency	webrigoletto.uba.de/rigoletto/public/language.do;jsessionid=61D845CE75D839F7658BF283C97DA7E2?language=english
WA PBT	Chapter 173-333 WAC Persistent Bioaccumulative Toxins	State of Washington Department of Ecology	apps.leg.wa.gov/WAC/default.aspx?cite=173-333-310

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 Hazard Categories	GreenScreen Hazard Categories	GreenScreen Group
PBT (Persistent Bioaccumulative Toxic)	Bioaccumulation	Environmental Fate
	Persistence	Environmental Fate
Cancer	Carcinogenicity	Group I Human
Development	Developmental Toxicity (incl. Developmental Neurotoxicity)	Group I Human
Reproductive	Reproductive Toxicity	Group I Human
Endocrine	Endocrine Activity	Group I Human
Gene Mutation	Mutagenicity/Genotoxicity	Group I Human
Respiratory	Respiratory Sensitization	Group II* Human
Neurotoxicity	Neurotoxicity - Repeated Exposure	Group II* Human
Neurotoxicity	Neurotoxicity-Any Exposure	Group II Human
Neurotoxicity	Neurotoxicity-Single Exposure	Group II Human
Mammal	Acute Mammalian Toxicity	Group II Human
Mammal	Systemic Toxicity/Organ Effects (Repeated Exposure) including Immune System Effects	Group II* Human
Mammal	Systemic Toxicity/Organ Effects (Single Exposure)	Group II Human
Skin or Eye	Eye Irritation/Corrosivity	Group II Human
Skin or Eye	Skin Irritation/Corrosivity	Group II Human
Skin or Eye	Skin Sensitization	Group II* Human
Aquatic Toxicity	Acute Aquatic Toxicity	Ecotoxicity
Aquatic Toxicity	Chronic Aquatic Toxicity	Ecotoxicity
Land Toxicity	Ecotoxicity	Ecotoxicity
Global Warming	_ Not in GreenScreen_	_ Not in GreenScreen_
Ozone Depletion	_ Not in GreenScreen_	_ Not in GreenScreen_
Physical Hazard	Flammable	Physical Hazard
Physical Hazard	Reactive	Physical Hazard
Mixed	Used for warning lists that cover multiple hazards	
Unknown		
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

Manufacturing form specific exception: Certain authoritative hazard warnings are addressed explicitly to specific forms of the substance which are only considered by the authoritative body to be a hazard in manufacturing settings. These manufacturing form specific warnings are currently excluded from the HPD Priority Lists against which contents are required to be assessed.

APPENDIX D - HPD PRIORITY LIST SOURCES

This list is also available in the HPD Template excel spreadsheet downloadable from *www.hpdcollaborative.org.*

Agency and List Title	Abbrev	Full List Title	Hazard Issuing Agency	URL
AOEC - Asthmagens	AOEC	AOEC Exposure Codes - Asthmagen List	Association of Occupational and Environmental Clinics	www.aoec.org/tools.htm
Environment Canada - Domestic Substances List	DSL	Canadian Environmental Protection Act (CEPA) - Environmental Registry - Domestic Substances List (DSL)	Environment Canada & Health Canada	www.ec.gc.ca/CEPARegistry/subs_list/dsl/dslsearch.cfm
US EPA - PPT Chemical Action Plans	EPA Action	Chemicals of Concern Action Plans	US Environmental Protection Agency	www.epa.gov/oppt/existingchemicals/
US EPA - PPT Priority PBTs	EPA PBT	Priority PBT Profiles	US Environmental Protection Agency	www.epa.gov/opptintr/pbt/pubs/cheminfo.htm
US EPA - IRIS Carcinogens	EPA-C	Integrated Risk Information System Database (IRIS)	US Environmental Protection Agency	www.epa.gov/ncea/iris/search_human.htm
US EPA - Global Warming Potentials	EPA-GW	Global Warming Potentials of Ozone Depletors and Substitutes	US Environmental Protection Agency	www.epa.gov/ozone/geninfo/gwps.html
US EPA - Ozone Depleting Substances	EPA-ODS	Ozone-Depleting Substances (ODS) Class I & Class II	US Environmental Protection Agency	www.epa.gov/spdpublc/science/ods/index.html
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	eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2007:136:0003:0280:EN:PDF
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	http://ec.europa.eu/enterprise/sectors/chemicals/classification/index_en.htm
EC - Priority Endocrine Disrupters	EU ED	EU Community Strategy for Endocrine Disrupters - Priority List	European Commission	ec.europa.eu/environment/endocrine/strategy/substances_en.htm
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.europa.eu/enterprise/sectors/chemicals/documents/classification/
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.europa.eu/environment/ozone/controlled_ods.htm

Agency and List Title	Abbrev	Full List Title	Hazard Issuing Agency	URL
EC - ESIS-PBT System	EU PBT	European chemical Substances Information System (ESIS) - PBT List	European Commission	esis.jrc.ec.europa.eu/index.php?PGM=pbt
EC - Risk Phrases	EU R-Phrases	Substances with EU Risk & Safety Phrases (Commission Directive 67-548-EEC)	European Commission	ec.europa.eu/enterprise/sectors/chemicals/documents/classification/
EC - REACH Substances of High Concern	EU SVHC	Substances of Very High Concern for authorisation - REACH Annex XIV	European Commission	echa.europa.eu/chem_data/authorisation_process/candidate_list_table_en.asp
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	not available
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	monographs.iarc.fr/ENG/Classification/index.php
German MAK - List of Substances (MAK)	MAK	Occupational Toxicants and MAK Values: Annual Thresholds and Classifications for the Workplace	MAK Commission of Germany	http://www.dfg.de/en/dfg_profile/statutory_bodies/senate/health_hazards/structure/working_groups/derivation_mak/index.html
US CDC - Occupational Carcinogens	NIOSH-C	NIOSH Carcinogen List	US Centers for Disease Control, National Institute of Occupational Safety and Health	www.cdc.gov/niosh/topics/cancer/npotocca.html
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	cerhr.niehs.nih.gov/chemicals
US NIH - Report on Carcinogens	NTP-RoC	National Toxicology Program (NTP) 12th Report on Carcinogens	US Dept of Health & Human Services	ehis.niehs.nih.gov/roc
US EPA - Priority PBTs	NWMP Priority	National Waste Minimization Program Priority Chemicals List	US Environmental Protection Agency	www.epa.gov/epawaste/hazard/wastemin/priority.htm
Oregon DEQ - Priority Persistent Pollutants	OR P3	Priority Persistent Pollutant (P3) List	State of Oregon Department of Environmental Quality	www.deq.state.or.us/wq/SB737
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	www.ospar.org/content/content.asp?menu=00940304440000_000000_000000

Agency and List Title	Abbrev	Full List Title	Hazard Issuing Agency	URL
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	www.oehha.ca.gov/prop65/prop65_list/Newlist.html
EHP - San Antonio Statement on BFRs & CFRs	San Antonio	San Antonio Statement on Brominated and Chlorinated Flame Retardants	Environmental Health Perspectives	ehp03.niehs.nih.gov/article/info:doi/10.1289/ehp.1003089
ChemSec - Substitute List	SIN	SIN (Substitute It Now) List	ChemSec, The International Chemical Secretariat	www.chemsec.org/list
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	chm.pops.int/Convention/ThePOPs/tabid/673/language/en-US/Default.aspx
TEDX - Potential Endocrine Disruptors	TEDX	TEDX List of Potential Endocrine Disruptors	The Endocrine Disruption Exchange (TEDX)	www.endocrinedisruption.org
US EPA - Toxics Release Inventory PBTs	TRI PBT	TRI PBT Chemical List	US Environmental Protection Agency	www.epa.gov/triinter/trichemicals/pbt%20chemicals/pbt_chem_list.htm
German FEA - Substances Hazardous to Waters	VwVwS	Administrative Regulation on the Classification of Substances hazardous to waters	German Federal Environment Agency	webrigoletto.uba.de/rigoletto/public/language.do;jsessionid=61D845CE75D839F7658BF283C97DA7E2?language=english
Washington DoE - PBT	WA PBT	Chapter 173-333 WAC Persistent Bioaccumulative Toxins	State of Washington Department of Ecology	apps.leg.wa.gov/WAC/default.aspx?cite=173-333-310

APPENDIX E – HPD PRIORITY LIST WARNINGS

This list is also available in the HPD Template excel spreadsheet downloadable from *www.hpdcollaborative.org*.

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
AOEC	Respiratory	Asthmagen (AG) - generally accepted	U	Authoritative	H, M, or L	Group II* Human
AOEC	Respiratory	Asthmagen (ARr) - irritant-induced	U	Authoritative	H or M	Group II* Human
AOEC	Respiratory	Asthmagen (ARrs) - sensitizer-induced & irritant-induced	U	Authoritative	H or M	Group II* Human
AOEC	Respiratory	Asthmagen (ARs) - sensitizer-induced	U	Authoritative	H or M	Group II* Human
DSL	PBT	Persistent, Bioaccumulative and inherently Toxic (PBiT) to aquatic organisms	P1	Screening	U	Multiple
DSL	PBT	Persistent, Bioaccumulative and inherently Toxic (PBiT) to humans	P1	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	BM1	Authoritative	U	Multiple
EPA-C	Cancer	(1986) Group A - Human carcinogen	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(1986) Group B1 - Probable human carcinogen	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(1986) Group B2 - Probable human carcinogen	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(1986) Group C - Possible human carcinogen	U	Authoritative	M	Group I Human
EPA-C	Cancer	(1996) Known/likely human carcinogen	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(1999) Carcinogenic to humans	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(2005) Carcinogenic to humans	BM1	Authoritative	H	Group I Human
EPA-C	Cancer	(2005) Likely to be carcinogenic to humans	BM1	Authoritative	H	Group I Human
EPA-GW	Global Warming	Global Warming Potential greater than 10,000	not assessed by GreenScreen			
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	BM1	Authoritative	H	Group I Human
EU CMR (2)	Cancer	Carcinogen 1B	BM1	Authoritative	H	Group I Human
EU CMR (2)	Cancer	Carcinogen 2	U	Authoritative	M	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 1A	BM1	Authoritative	H	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 1B	BM1	Authoritative	H	Group I Human
EU CMR (2)	Gene Mutation	Mutagen 2	U	Authoritative	M	Group I Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU CMR (2)	Reproductive	Reproductivity 1A	BM1	Authoritative	H (R and/or D)	Multiple
EU CMR (2)	Reproductive	Reproductivity 2	U	Authoritative	M (R and/or D)	Multiple
EU CMR (1)	Cancer	Carcinogen Category 1 - Substances known to be carcinogenic to man	BM1	Authoritative	H	Group I Human
EU CMR (1)	Cancer	Carcinogen Category 2 - Substances which should be regarded as if they are carcinogenic to man	BM1	Authoritative	H	Group I Human
EU CMR (1)	Cancer	Carcinogen Category 3 - Substances which possibly are carcinogenic to humans	U	Authoritative	M	Group I Human
EU CMR (1)	Gene Mutation	Mutagen Category 1 - Substances known to be mutagenic to man)	BM1	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	BM1	Authoritative	H	Group I Human
EU CMR (1)	Gene Mutation	Mutagen Category 3 - Substances which possibly are mutagenic to humans	U	Authoritative	M	Group I Human
EU CMR (1)	Reproductive	Toxic to Reproduction Category 1 - Substances known to impair fertility or cause developmental toxicity in humans	BM1	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	BM1	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	U	Authoritative	M (R and/or D)	Multiple
EU ED	Endocrine	Category 1 - In vivo evidence of endocrine disruption activity	P1	Screening	H or M	Group I Human
EU ED	Endocrine	Category 2 - In vitro evidence of biological activity related to endocrine disruption	P1	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	U	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H201 Explosive; mass explosion hazard	U	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H202 Explosive, severe projection hazard	U	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H203 Explosive; fire, blast or projection hazard	U	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H220 Extremely flammable gas.	U	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H222 Extremely flammable aerosol	U	Authoritative	H	Flammability

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU H-Statements	Physical Hazard	H224 Extremely flammable liquid and vapour	U	Authoritative	vH	Flammability
EU H-Statements	Physical Hazard	H225 Highly flammable liquid and vapour.	U	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H228 Flammable solid.	U	Authoritative	H or M	Flammability
EU H-Statements	Physical Hazard	H240 Heating may cause an explosion	U	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H241 Heating may cause a fire or explosion	U	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H250 Catches fire spontaneously if exposed to air	U	Authoritative	H	Flammability
EU H-Statements	Physical Hazard	H251 Self-heating: may catch fire	U	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H260 In contact with water releases flammable gases which may ignite spontaneously	U	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H261 In contact with water releases flammable gases.	U	Authoritative	H or M	Reactivity
EU H-Statements	Physical Hazard	H270 May cause or intensify fire; oxidiser. GAS ONLY	U	Authoritative	H	Reactivity
EU H-Statements	Physical Hazard	H271 May cause fire or explosion; strong oxidiser	U	Authoritative	vH	Reactivity
EU H-Statements	Physical Hazard	H272 May intensify fire; oxidiser.	U	Authoritative	H or M	Reactivity
EU H-Statements	Mammal	H300 Fatal if swallowed	U	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H301 Toxic if swallowed	U	Authoritative	H	Group II Human
EU H-Statements	Mammal	H310 Fatal in contact with skin	U	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H311 Toxic in contact with skin	U	Authoritative	H	Group II Human
EU H-Statements	Skin or Eye	H314 Causes severe skin burns and eye damage	U	Authoritative	vH	Group II Human
EU H-Statements	Skin or Eye	H315 Causes skin irritation	U	Authoritative	H	Group II Human
EU H-Statements	Skin or Eye	H317 May cause an allergic skin reaction	U	Authoritative	H or M	Group II* Human
EU H-Statements	Skin or Eye	H318 Causes serious eye damage	U	Authoritative	vH	Group II* Human
EU H-Statements	Skin or Eye	H319 Causes serious eye irritation	U	Authoritative	H	Group II* Human
EU H-Statements	Mammal	H330 Fatal if inhaled	U	Authoritative	vH	Group II Human
EU H-Statements	Mammal	H331 Toxic if inhaled	U	Authoritative	H	Group II Human
EU H-Statements	Respiratory	H334 May cause allergy or asthma symptoms or breathing difficulties if inhaled	U	Authoritative	H or M	Group II* Human
EU H-Statements	Gene Mutation	H340 May cause genetic defects	BM1	Authoritative	H	Group I Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU H-Statements	Gene Mutation	H341 Suspected of causing genetic defects	U	Authoritative	M	Group I Human
EU H-Statements	Cancer	H350 May cause cancer	BM1	Authoritative	H	Group I Human
EU H-Statements	Cancer	H350i May cause cancer by inhalation	BM1	Authoritative	H	Group I Human
EU H-Statements	Cancer	H351 Suspected of causing cancer	U	Authoritative	M	Group I Human
EU H-Statements	Developmental	H360D May damage the unborn child	BM1	Authoritative	H	Group I Human
EU H-Statements	Developmental	H360Df May damage the unborn child. Suspected of damaging fertility	BM1	Authoritative	H	Group I Human
EU H-Statements	Reproductive	H360F May damage fertility	BM1	Authoritative	H	Group I Human
EU H-Statements	Reproductive	H360Fd May damage fertility. Suspected of damaging unborn child	BM1	Authoritative	H	Group I Human
EU H-Statements	Developmental	H361d Suspected of damaging the unborn child	U	Authoritative	M	Group I Human
EU H-Statements	Reproductive	H361f Suspected of damaging fertility	U	Authoritative	M	Group I Human
EU H-Statements	Developmental	H361fd Suspected of damaging fertility. Suspected of damaging the unborn child	BM1	Authoritative	M	Group I Human
EU H-Statements	Developmental	H362 May cause harm to breast-fed children	BM1	Authoritative	H	Group I Human
EU H-Statements	Mammal	H370 Causes damage to organs	U	Authoritative	vH	Group II Human
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life	U	Authoritative	vH	Ecotoxicity
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 10	U			
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 100	U			
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 1000	U			
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 10000	U			
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 100000	U			
EU H-Statements	Aquatic	H400 - Aquatic Acute 1 - Very toxic to aquatic life / M-Factor of 1000000	U			
EU H-Statements	Aquatic	H410 - Aquatic Chronic 1 - Very toxic to aquatic life with long lasting effects	P1	Screening	U	Multiple

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU H-Statements	Aquatic	H411 - Aquatic Chronic 2 - Toxic to aquatic life with long lasting effects	P1	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	BM1	Authoritative	U	Multiple
EU PBT	PBT	Fulfilling PBT & vPvB Criteria & POP	BM1	Authoritative	U	Multiple
EU PBT	PBT	Fulfilling PBT Criteria	BM1	Authoritative	U	Multiple
EU PBT	PBT	Fulfilling PBT criteria - action Deferred	BM1			
EU PBT	PBT	Fulfilling PBT Criteria & POP	BM1			
EU PBT	PBT	Fulfilling POP Criteria	BM1			
EU PBT	PBT	Fulfilling vPvB Criteria	BM1			
EU R-Phrases	Mammal	R01 Explosive when dry.	U	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R06 Explosive with or without contact with air.	U	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R07 May cause fire.	U	Authoritative	vH, H, or M	Reactivity
EU R-Phrases	Mammal	R09 Explosive when mixed with combustible material.	U	Authoritative	vH	Reactivity
EU R-Phrases	Mammal	R10 Flammable. LIQUID	U	Authoritative	vH, H, or M	Flammability
EU R-Phrases	Mammal	R11 Highly flammable.; LIQUID	U	Authoritative	vH or H	Flammability
EU R-Phrases	Mammal	R12 Gas only	U	Authoritative	H or M	Flammability
EU R-Phrases	Mammal	R15 Contact with water liberates extremely flammable gases.	U	Authoritative	vH, H, or M	Reactivity

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU R-Phrases	Mammal	R17 Spontaneously flammable in air.; LIQUID	U	Authoritative	H	Flammability
EU R-Phrases	Mammal	R20 Harmful by Inhalation (gas or vapor or dust/mist)	U	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R21 Harmful in Contact with Skin	U	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R22 Harmful if Swallowed	U	Authoritative	H or M	Group II Human
EU R-Phrases	Mammal	R23 Toxic by Inhalation (gas, vapour, dust/mist);	U	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R24 Toxic in Contact with Skin	U	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R25 Toxic if Swallowed	U	Authoritative	vH or H	Group II Human
EU R-Phrases	Mammal	R26: Very toxic by inhalation	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R27: Very toxic in contact with skin.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R28: Very toxic if swallowed.	U	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R34 Causes burns	U	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R35 Causes severe burns	U	Authoritative	vH	Group II Human
EU R-Phrases	Skin or Eye	R36 Irritating to eyes	U	Authoritative	H or M	Group II* Human
EU R-Phrases	Skin or Eye	R38 Irritating to skin	U	Authoritative	H	Group II Human
EU R-Phrases	Mammal	R39/23 Toxic: Danger of very serious irreversible effects through inhalation.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/24 Toxic: Danger of very serious irreversible effects in contact with skin.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/25 Toxic: Danger of very serious irreversible effects if swallowed.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/26 Very Toxic: Danger of very serious irreversible effects through inhalation.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/27 Very Toxic: Danger of very serious irreversible effects in contact with skin.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39/28 Very Toxic: Danger of very serious irreversible effects if swallowed.	U	Authoritative	vH	Group II Human
EU R-Phrases	Mammal	R39: Danger of very serious irreversible effects.	U	Authoritative	vH	Group II Human
EU R-Phrases	Cancer	R40: Limited evidence of a carcinogenic effect	U	Authoritative	M	Group I Human
EU R-Phrases	Skin or Eye	R41 Risk of serious damage to eyes	U	Authoritative	vH	Group II* Human
EU R-Phrases	Respiratory	R42 May cause sensitization by inhalation	U	Authoritative	H or M	Group II* Human
EU R-Phrases	Skin or Eye	R43 May cause sensitization by skin contact	U	Authoritative	H or M	Group II* Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU R-Phrases	Cancer	R45: May cause cancer.	BM1	Authoritative	H	Group I Human
EU R-Phrases	Gene Mutation	R46: May cause heritable genetic damage.	BM1	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.	U	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.	U	Authoritative	H	Group II* Human
EU R-Phrases	Mammal	R48/25 Toxic: Danger of Serious Damage to health by prolonged exposure if swallowed.	U	Authoritative	H	Group II* Human
EU R-Phrases	Cancer	R49: May cause cancer by inhalation.	BM1	Authoritative	H	Group I Human
EU R-Phrases	Aquatic	R50: Very toxic to aquatic organisms.	U	Authoritative	vH	Ecotoxicity
EU R-Phrases	Aquatic	R51/53 Toxic to Aquatic Organisms, May cause long-term adverse effects in the aquatic environment	U	Authoritative	H	Ecotoxicity
EU R-Phrases	Aquatic	R51/53 Toxic to Aquatic Organisms, May cause long-term adverse effects in the aquatic environment	P1	Authoritative	U	Multiple
EU R-Phrases	Aquatic	R51: Toxic to aquatic organisms.	U	Authoritative	H or M	Ecotoxicity
EU R-Phrases	Aquatic	R52 Harmful to Aquatic Organisms	U	Authoritative	H or M	Ecotoxicity
EU R-Phrases	Land Toxicity	R54 Toxic to flora.	U	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R55 Toxic to fauna.	U	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R56 Toxic to soil organisms.	U	Authoritative	vH, H, M	Ecotoxicity
EU R-Phrases	Land Toxicity	R57 Toxic to soil organisms.	U	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.	BM1	Authoritative	H	Group I Human
EU R-Phrases	Developmental	R61: May cause harm to the unborn child.	BM1	Authoritative	H	Group I Human
EU R-Phrases	Reproductive	R62: Possible risk of impaired fertility.	U	Authoritative	M	Group I Human
EU R-Phrases	Developmental	R63: Possible risk of harm to the unborn child.	U	Authoritative	M	Group I Human
EU R-Phrases	Developmental	R64: May cause harm to breastfed babies.	BM1	Authoritative	H	Group I Human
EU R-Phrases	Mammal	R68/20 Harmful: Possible risk of irreversible effects through inhalation.	U	Authoritative	H	Group II Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
EU R-Phrases	Mammal	R68/21 Harmful: Possible risk of irreversible effects in contact with skin.	U	Authoritative	H	Group II Human
EU R-Phrases	Mammal	R68/22 Harmful: Possible risk of irreversible effects if swallowed.	U	Authoritative	H	Group II Human
EU R-Phrases	Gene Mutation	R68: Possible risk of irreversible effects	U	Authoritative	M	Group I Human
EU SVHC	Cancer	Carcinogenic - Banned unless authorized	BM1	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	BM1	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 for GreenScreen			
EU SVHC	PBT	PBT - Banned unless authorized	BM1	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	BM1	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	BM1	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	P1	Screening	H or M	Group I Human
IARC	Cancer	Group 1: Agent is carcinogenic to humans	BM1	Authoritative	H	Group I Human
IARC	Cancer	Group 2A: Agent is probably carcinogenic to humans	BM1	Authoritative	H	Group I Human
IARC	Cancer	Group 2B: Possibly carcinogenic to humans	BM1	Authoritative	H	Group I Human
MAK	Cancer	Carcinogenic Group 1	BM1	Authoritative	H	Group I Human
MAK	Cancer	Carcinogenic Group 2	BM1	Authoritative	H	Group I Human
MAK	Cancer	Carcinogenic Group 3	U	Authoritative	M	Group I Human
MAK	Cancer	Carcinogenic Group 4	U	Authoritative	M	Group I Human
MAK	Cancer	Carcinogenic Group 5	U	Authoritative	M	Group I Human
MAK	Gene Mutation	Germ Cell Mutagen 1	P1	Authoritative	H or M	Group I Human
MAK	Gene Mutation	Germ Cell Mutagen 2	P1	Authoritative	H or M	Group I Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
MAK	Gene Mutation	Germ Cell Mutagen 3a	P1	Authoritative	H or M	Group I Human
MAK	Developmental	Pregnancy Risk Group A	P1	Authoritative	H or M	Group I Human
MAK	Developmental	Pregnancy Risk Group B	P1	Authoritative	H or M	Group I Human
MAK	Respiratory	Sensitizing Substance Sa - Danger of airway sensitization	U	Authoritative	H	Group II* Human
MAK	Respiratory	Sensitizing Substance Sah - Danger of airway & skin sensitization	U	Authoritative	H (SnS and SnR)	Multiple
MAK	Skin or Eye	Sensitizing Substance Sh - Danger of skin sensitization	U	Authoritative	H	Group II* Human
MAK	Skin or Eye	Sensitizing Substance SP - Danger of photocontact sensitization	U	Authoritative	H (SnS and/or SnR)	Multiple
NIOSH-C	Cancer	Occupational carcinogen	BM1	Authoritative	H	Group I Human
NTP-OHAaT	Developmental	A-Clear evidence of adverse developmental toxicant effects	BM1	Authoritative	H	Group I Human
NTP-OHAaT	Reproductive	A-Clear evidence of adverse reproductive toxicant effects	BM1	Authoritative	H	Group I Human
NTP-OHAaT	Developmental	B-Some evidence of adverse developmental toxicant effects	P1	Authoritative	H or M	Group I Human
NTP-OHAaT	Reproductive	B-Some evidence of adverse reproductive toxicant effects	P1	Authoritative	H or M	Group I Human
NTP-OHAaT	Developmental	C-Limited evidence of adverse developmental toxicant effects	P1	Authoritative	H or M	Group I Human
NTP-OHAaT	Reproductive	C-Limited evidence of adverse reproductive toxicant effects	P1	Authoritative	H or M	Group I Human
NTP-RoC	Cancer	Known to be Human Carcinogen	BM1	Authoritative	H	Group I Human
NTP-RoC	Cancer	Reasonably Anticipated to be Human Carcinogen	BM1	Authoritative	H	Group I Human
NWMP Priority	PBT	Priority PBT	BM1	Authoritative	U	Multiple
OR P3	PBT	Priority Persistent Pollutant - Tier 1	P1	Screening	U	Multiple
OR P3	PBT	Priority Persistent Pollutant - Tier 2 - Legacy Persistent Pollutants	P1	Screening	U	Multiple
OSPAR	Endocrine	Endocrine disruptor - Substance of Possible Concern	P1	Screening	H or M	Group I Human
OSPAR	Endocrine	Endocrine disruptor - Chemical for Priority Action	P1	Screening	H or M	Group I Human
OSPAR	PBT	PBT - Substance of Possible Concern	BM1	Authoritative	U	Multiple
OSPAR	PBT	PBT- Chemical for Priority Action	BM1	Authoritative	U	Multiple
Prop 65	Cancer	Cancer	BM1	Authoritative	H	Group I Human
Prop 65	Developmental	Developmental toxicity	BM1	Authoritative	H	Group I Human
Prop 65	Reproductive	Female reproductive toxicity	BM1	Authoritative	H	Group I Human

Agency Abbrv	Hazard Type	Hazard Warning	GS BM	GS List Type	GS Haz Range	GreenScreen Group
Prop 65	Reproductive	Male reproductive toxicity	BM1	Authoritative	H	Group I Human
San Antonio	PBT	Flame retardant substance class of concern for PB&T & long range transport	BM1			
SIN	Multiple	Classified CMR (Carcinogen, Mutagen &/or Reproductive Toxicant)	P1	Screening	U	Multiple
SIN	Endocrine	Equivalent concern, including endocrine disruption - Sin List 1.0	P1	Screening	H or M	Group I Human
SIN	Endocrine	Equivalent concern, including endocrine disruption - Sin List 2.0	P1	Screening	H or M	Group I Human
SIN	PBT	PBT	P1	Screening	U	Multiple
SIN	PBT	vPvB	P1	Screening	U	Multiple
Stockholm	PBT	Priority Persistent Organic Pollutant (POP)	BM1	Authoritative	U	Multiple
Stockholm	PBT	May degrade to PFOS - PBT under review	BM1	Authoritative	U	Multiple
Stockholm	PBT	Persistent Organic Pollutant (POP) - under review	BM1	Authoritative	U	Multiple
TEDX	Endocrine	Potential Endocrine Disruptor	P1	Screening	H or M	Group I Human
TRI PBT	PBT	PBT	BM1	Authoritative	U	Multiple
VwVwS	Multiple	Class 2 Hazard to Waters	P1	Screening	U	Multiple
VwVwS	Multiple	Class 3 Severe Hazard to Waters	P1	Screening	U	Multiple
WA PBT	PBT	PBT	P1	Screening	U	Multiple

APPENDIX F – MANUFACTURER'S CERTIFICATE OF CONFORMITY

All self-declared claims must be documented with a Manufacturer's Certificate of Conformity which describes the product sampling and testing protocol and that the product actually tested is a worst case representative of the product described in the HPD. The guidance here was designed to support a manufacturer's affirmation that the manufacturer has followed the protocols described in the CDPH Standard Method Version 1.1 for self-declared claims for VOC emissions using an independent laboratory but not a third party certification program , but can be used for other claims as well. See CDPH Standard Method in Appendix G – Terminology for links for more detail on a manufacturer's responsibility in making a self-declared claim.

The CHPS (Collaborative for High Performance Schools (CHPS) program has developed a form for its product database called the "High Performance Product Database Low-Emitting Materials Self-Certification" which meets the requirements for a certificate of conformity for the HPD. It can be downloaded from CHPS at *http://www.chps.net/dev/Drupal/self-certified-low-emitting-product* (accessed 11/6/2012)

The manufacturer may also create this as a separate document that the manufacturer prepares on its own letterhead. It is not part of the HPD Standard or included in the Template.

The following elements are to be addressed in the Certificate:

A **Product(s) covered by this certificate:** Descriptive name and identification number(s) of product(s). Include URL link to manufacturer's web page describing product.

B **Standard certified:** Authoritative model to which the product(s) are being certified. Include name of standard, version number and date of standard.

C **Manufacturer:** Name of company that is self-certifying compliance of product(s) to standard.

D **Contact:** Phone number and email address for the individual responsible for the maintenance of quality control and test result records for product.

E **Manufacturing locations:** City and State or Province where product(s) covered under this certificate are made.

F **Laboratory:** Identification of third-party laboratory on whose testing this certificate depends (include lab's applicable ISO/IEC 17025 accreditation body and certificate number)

G **Testing & Certificate dates & number:** Day, month and year of testing, as well as laboratory test certificate number with date of issue (if different). Attach certificate or provide URL link.

H **Tested product:** Descriptive name and identification number of the tested product, if different than product listed in **A**; otherwise, indicate "Same".

I **Tested product manufacture:** Location and date of manufacture of the tested product.

J **Worst case assessment:** If more than one product or manufacturing location is covered by this certificate, provide a description of why the tested product is expected to give the worst results for the test and hence is a conservative worst case representative of all products listed in **A** and all manufacturing locations listed in **E**:

K **Manufacturer's Declaration:**
- This environmental claim relies upon competent and reliable evidence
- Quality control procedures are in place to ensure that manufactured units of the product consistently meet the criteria
- The test sample was selected from typical production operations and was randomly selected from a production lot that is large enough to ensure that it is representative of the product as introduced into the market
- The test sample was selected following a pre-defined written sampling plan
- If this claim includes products other than the product and manufacturing location for which a sample was collected and tested, a record is maintained of the procedures used for the selection of a worst-case lot, group, or model and extension of the claim to the full set of products and manufacturing locations in the form of test results, calculations, formulations and other supportive information.

L **Signature**

M **Signee's Title**

N **Date**

APPENDIX G - TERMINOLOGY

Authoritative chemical hazard lists:

Listings of chemicals and their association to human health or environmental hazards that are created by an expert assessment of scientific evidence by a recognized authoritative body.

GreenScreen:

Short for "GreenScreen for Safer Chemicals", a benchmarking protocol developed by Clean Production Action to rank chemicals along a four point scale between the most toxic chemicals and the most benign to guide substitution efforts. The scale is:

- GreenScreen Benchmark 1 (Avoid—Chemical of High Concern)
- GreenScreen Benchmark 2 (Use but Search for Safer Substitutes)
- GreenScreen Benchmark 3 (Use but Still Opportunity for Improvement)
- GreenScreen Benchmark 4 (Prefer— Safer Chemical)

The methodology guides assessment of chemicals by defining hazard levels by toxicological thresholds for a wide variety of human health endpoints and creating rules for assigning benchmarks based on these endpoint hazard levels. A wide range of Authoritative chemical hazard lists are assessed against the GreenScreen method allowing benchmarking of chemicals by what lists they are identified on. The foundation of the GreenScreen method is the *Principles of Green Chemistry*[6] and the work of the US Environmental Protection Agency's (EPA's) *Design for the Environment (DfE)*[7]. The GreenScreen method is being adopted by members of the *Business-NGO Working Group for Safer Chemicals and Sustainable Materials* (aka BizNGO)[8]. For more information on the GreenScreen, see *http://www.cleanproduction.org/Greenscreen.php* .

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. More information and the full standard are available at *http://www.cal-iaq.org/vocs/standard-method-for-voc-emissions-testing-and-evaluation* .

- Inherently non-emitting sources: In LEED 2009 IEQ Credit 4.3: Low-Emitting Materials, LEED defines products which qualify for credit without any IAQ testing requirements as "Mineral based finish flooring products such as tile, masonry, terrazzo, and cut stone without integral organic-based coatings and sealants and unfinished/untreated solid wood flooring " Do note that associated site-applied adhesives, grouts, finishes and sealers must be compliant for a mineral-based or unfinished/untreated solid wood flooring system to qualify for LEED credit. Also note that the LEED 2012 EQ Credit: Low-Emitting Interiors currently in draft has a changed definition of which materials qualify.
- Interior Products as per CDPH: These are products used in the interior of a building for which the CDPH Standard Method v1.1 provides exposure 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
    - Thermal insulation - Ceiling & Wall
    - Wall base
    - Visual Aid Boards
    - Desk
    - Seating
    - Door & other millwork
    - Window treatments

Some certification programs such as the GreenGuard program 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 may be listed in the HPD as well. An entry is not required, however, in these categories for products not tested.

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

[7] http://www.epa.gov/dfe/

[8] http://www.bizngo.org/

Recycled content:

a **Post-consumer recycled content:** 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 its intended purpose.

b **Post-industrial (pre-consumer) recycled content:** 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."

Product:

A product may be comprised of multiple ingredients but is sold as a single entity. Examples include paints and coatings, resilient flooring, adhesives, sealants, and gypsum board products and other products that are being reported directly by the manufacturer of that product, and not being reported as a component of a system or assembly.

- **System:** A system is an assemblage or combination of discrete components (materials or parts) combined to form a unitary whole. Often some or all of the components in a system may be interchanged. 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), acoustical wall panels (where different facings may be selected to be applied to a core), and other multiple component products commonly referred to as "systems" in project specifications. Reporting should include information on the shop applied treatments and finishes (dyes, binders, waterproofing, mold and mildew inhibitors, wood treatments, paints and coatings, etc.).

- **Assembly:** An assembly is an assemblage or combination of discrete components forming an assembled whole that is provided by one manufacturer for a project. Unlike a System, an assembly is typically delivered in multiple parts with final assembly occurring at installation on the job site. Examples include door assemblies, ceiling assemblies, flooring assemblies such as sports flooring or raised flooring, demountable wall assemblies, visual display assemblies and other multiple component products commonly referred to as "assemblies" in project specifications. Reporting should include information on the shop applied treatments and finishes (dyes, binders, waterproofing, mold and mildew inhibitors, wood treatments, paints and coatings, etc.).

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.