



# LEED Pilot Credit Library

## Pilot Credit 11: Chemical Avoidance in Building Materials

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#### Applicable Rating Systems

This credit is available for pilot testing by the following LEED project types:

- New Construction
- Schools
- Healthcare (when available)
- Commercial Interiors
- Retail for New Construction & Commercial Interiors

#### Intent

To reduce the quantity of indoor contaminants that are harmful to the comfort and well-being of installers and occupants.

#### Requirements

Specify interior building materials and products that do not contain the specific targeted chemicals listed below for all applicable materials. Furniture is required to be included if it is within the project's scope of work.

**Halogenated flame retardants**, including, but not limited to the following brominated and chlorinated flame retardants:

- Hexabromocyclododecane (HBCD)<sup>1</sup>
- Penta, octa, and decabromodiphenyl ethers (PBDEs)<sup>1</sup>
- Tetrabromobisphenol-A (TBBPA)
- Tris(2-chloroisopropyl) phosphate (TCPP),
- Tris(2-chloroethyl)phosphate (TCEP)
- Dechlorane Plus

**Phthalates** including, but not limited to the following:

- Butyl Benzyl Phthalate (BBP)<sup>1</sup>
- Di(2-Ethylhexyl)Phthalate (DEHP)<sup>1</sup>
- Di-N-Octyl Phthalate (DNOP)<sup>1</sup>
- Di-N-Pentyl Phthalate (DNPP)<sup>1</sup>
- Dibutyl Phthalate (DBP)<sup>1</sup>
- Diisobutyl Phthalate (DIBP)<sup>1</sup>
- Diisodecyl Phthalate (DIDP)<sup>1</sup>
- Diisononyl Phthalate (DINP)<sup>1</sup>
- Di-N-Hexylphthalate (DNHP)<sup>2</sup>



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<sup>1</sup> From the EPA's Chemical Action Plans (US Environmental Protection Agency, Pollution Prevention and Toxics, Existing Chemicals Program (US EPA PPT) <http://www.epa.gov/oppt/existingchemicals/>)

<sup>2</sup> Specific listing from California Prop 65 (California Office of Environmental Health Hazard Assessment (OEHHA) list of Chemicals Known to the State to Cause Cancer or Reproductive Toxicity, Safe Drinking Water and Toxic Enforcement Act of 1986 (Proposition 65) [http://www.oehha.ca.gov/prop65/prop65\\_list/Newlist.html](http://www.oehha.ca.gov/prop65/prop65_list/Newlist.html))

### Credit Submittals

#### General:

1. [Register for Pilot Credit\(s\) here.](#)
2. Register a username at [LEEDuser.com](http://LEEDuser.com), and participate in online forum
3. [Submit feedback survey](#); supply PDF of your survey/confirmation of completion with credit documentation

#### Credit Specific:

In order to maximize the usefulness of feedback associated with this pilot credit, USGBC asks that project teams provide an analysis of alternatives to products containing targeted chemicals as well as an analysis of the industry norm products that the team would have chosen had this pilot credit not been pursued. Teams must evaluate potential human health tradeoffs resulting from replacing materials and products to comply with this credit. It is the intention that the materials chosen for evaluation be limited to CSI MasterFormat™ 2004 Edition Divisions 03–10 and 12. This analysis is critical for the continued evolution of this pilot credit.

1. List all of the interior finishes that are included in the project team's scope of work.
2. Select six interior finish products for evaluation. A product is considered a whole assembly as purchased by the project team, e.g. a chair, desk or window as opposed to an entire furniture system. Suggested building product selections are those that have high exposure to building occupants through finish surfaces or are the finish materials with the largest quantity in the project, by area. Provide a narrative of why these materials were chosen for evaluation.
3. Identify products, equivalent to those identified in step 2, that are considered either industry norm or are in your firm's standard specification AND contain at least one targeted chemical listed in the credit requirements. If the industry norm does not contain any targeted chemicals, provide documentation demonstrating as much and skip to step 5.
4. Perform a comprehensive evaluation of the similar products identified in steps 2 and 3 with an overall focus on human health effects, such as VOC emissions or product toxic content using consistent metrics. Evaluations could be based on indemnified manufacturer's product data, third party comparison of products, or credentialed toxicologist's report.
5. Evaluate whether or not the products identified in step 2 also meet the requirements for EQ Credit 4, as applicable, in the rating system you are pursuing.



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### **Additional Questions**

- Were you able to determine targeted chemical content for all of the products selected? If not what were the challenges in obtaining desired data?
- How did you decide which human health parameters would be important for your team to assess in comparing products?
- Was the comprehensive evaluation of chemical ingredients, combinations and alternatives assessment useful to your product selection? How did you use it? Would you consider using it for more products beyond the scope of this credit?
- Were target chemical-free alternatives available? If not, did you choose not to evaluate them for this credit? What were those materials/products?

### **Background Information**

USGBC is planning a three step approach toward chemicals of concern. This pilot credit is intended to be the first measure. The Safer Chemistry pilot credit acknowledges and supports contemporary and accepted knowledge about specific chemicals of concern that should be avoided.

The second measure will address USGBC's larger mission of advancing product transparency and alternatives assessment across the spectrum of industrial chemicals to support systemic redesign of building products for progressively better human and ecological health.

The third measure will focus on process transparency within building product manufacturing. It is of increasing concern to USGBC that customers and manufacturers better understand and reduce the overall life-cycle related impacts associated with green building product manufacturing.

In this three step approach USGBC shows regard for leading edge knowledge and precautionary reason, offers guidance to help formulators and designers innovate products that drive better building performance and helps manufacturers identify their greatest opportunities for improvement across the life-cycle of impacts that matter most to the USGBC mission.

The end result should be a world of green building materials to select that have optimized their supply chains and their contents to a measurable degree which will in turn significantly mitigate our sector's overall burden on the planet.