

SPECIAL CONDITION: Biological Material

Version: SCBioMats/2018-02-23

BACKGROUND

Definition: A biological material is a naturally occurring material containing genetic information and capable of reproducing itself or being produced within a biological system. Biological materials can be plant-based (e.g., beech wood, cotton), animal-based (e.g., leather, wool), microbial tissue-based, or a mixture. This Special Condition addresses *biological materials* still in their original form and does not include *biobased chemical derivatives* synthesized from plant or animal material.

Why is this a Special Condition: *A content inventory cannot be created with methods outlined in the current version of the HPD Open Standard due to variable or unknown composition and lack of CAS RNs.* Biological materials are complex mixtures of variable or unknown composition that cannot be broken down by CAS number but may have distinct hazard profiles. (For polymers derived from biological materials, see Polymers, currently under development.)

Scope: Any binders, coatings, and finishes, which are considered unique homogeneous materials in the HPD Open Standard, along with additives or other identifiable substances added to the material, must be inventoried as a separate substance or material on the HPD.

Harmonization: This Special Condition has been harmonized with the following:

- Cradle to Cradle Certified™, *Biological Materials Assessment Methodology*, May 2017; <http://www.c2ccertified.org/resources/detail/methodology-for-the-assessment-of-biological-materials>
- International Living Future Institute, *Declare Manufacturer's Guide*, May 2017; <https://living-future.org/wp-content/uploads/2017/05/Declare-Manufacturers-Guide-2017.pdf> (“Biological ingredients such as wood and agrifiber do not require disclosure of a CASRN”, Page 6)
- BIFMA e3 2014 <https://www.bifma.org/store/ViewProduct.aspx?id=1377924> (“No further review of wood and other natural fibers is required; however, products using these materials shall report added chemical constituents”, Page 33).

GUIDANCE/ INSTRUCTIONS:

Special Conditions instructions for specific data fields follow; ***if there are no Special Conditions instructions for a data field, the requirements of the HPD Open Standard should be followed.*** If the HPD Open Standard and Special Conditions instructions are followed, the HPD will not be barred from qualifying for the LEED v4 Material Disclosure and Optimization, Material Ingredients credit, Option 1.

*Data field auto-fills if using HPD Online Builder

HPD 2.1.1 Data Field	Special Condition Requirements
SECTION 1: SUMMARY	
Content in Descending	<ul style="list-style-type: none"> • Materials and Substances must be listed by the Material Name if applicable (BiologicalMaterial) and/ or Substance Name (SC:[common name]) as instructed

Order of Quantity*	in Section 2.
Characterized Screened Identified*	<ul style="list-style-type: none"> • “Yes” should be checked if all Standard requirements are met. • “Yes ex/SC” should be checked to indicate all substances were characterized, screened and/or identified as required except one or more Special Condition (SC) substances were characterized, screened, and/or identified according to SC guidance. The following is printed below the options for each item as appropriate: <ul style="list-style-type: none"> ○ “% weight and role provided for all substances except SC substances which were characterized according to SC guidance” ○ “All substances screened using Priority Hazard Lists with results disclosed except Special Conditions (SC) which were screened according to SC guidance” ○ “All substances disclosed by Name (Specific or Generic) and Identifier except Special Conditions (SC) which were identified according to SC guidance”
Inventory and Screening Notes*	<ul style="list-style-type: none"> • If the only content not characterized, screened, and/or identified is covered by the Special Condition, Inventory and Screening Notes should include the following notes: <ul style="list-style-type: none"> ○ “Special conditions applied: [BiologicalMaterial].” ○ [LEED v4] “Yes ex/SC ” result is due only to materials and substances for which Special Conditions were applied. Thus “Yes ex/SC” does not disqualify the product for the LEED v4 Materials and Resources Disclosure and Optimization credit, Option 1.
SECTION 2: CONTENT IN DESCENDING ORDER OF QUANTITY	
Materials – instructions apply only to Nested Materials Inventory format	
Material Name	Enter “BiologicalMaterial”
Material Notes	Enter “SpecialConditionApplied:Biological Material”
Substances – instructions apply to both Nested Materials and Basic Inventory formats	
Substance Name	Enter common name preceded by “SC:”
ID (Identifier):	Enter “SC:Bio” OR <ul style="list-style-type: none"> • For pulped cellulose, recycled or not: CAS RN 65996-61-4; NOT 9004-34-6¹ • For other pulped wood or vegetable cellulose fiber sources (e.g., mixed wood chips or fiber) use CAS RN 9004-34-6²

¹ <https://chem.nlm.nih.gov/chemidplus/rn/65996-61-4>

² <https://chem.nlm.nih.gov/chemidplus/rn/9004-34-6>

<p>Substance Notes</p>	<p>For “SC:Bio”</p> <ul style="list-style-type: none"> • Enter the most recent Special Condition version nomenclature with date, available on the Emerging Best Practices web page (e.g., Version = SCBioMats/2018-02-23). • Enter the category of biological material as “Category = “ <ul style="list-style-type: none"> ○ Live microorganisms – includes live fungi, bacteria, and other microorganisms ○ Live plants – any member of the kingdom Plantae in its live state ○ Tree-based materials – wood planks/strips/pieces, bark, wood chips, and other wood products ○ Plant-based materials – plant based fibers such as cotton, hemp, ramie, rice husks, and coconut fiber ○ Animal-based materials – such as wool, silk, mohair, cashmere, and leather/skins ○ Microbial tissue based materials – such as fungal mycelium ○ Plant, animal, and microbe-derived mixtures – such as essential oils, natural rubber latex, and waxes; any material in this category that has a CAS RN does not qualify as a Special Conditions and should follow HPD Open Standard reporting requirements • Enter the most specific identifier available. Depending on the category, this may be the scientific name (genus species or genus sp, or species of the fungal mycelium) or another identifier. • Include the statement/disclaimer “This disclosure does not provide information on allergens, hyper-accumulation of metals, production of any toxic substances during normal metabolic activities, pesticides, and other potential hazards or sources of hazards which may be found in certain biological materials.³” <p>For pulped cellulose and mixed fiber, include an explanation as to the nature and source of the content including genus species(s) of source material if available</p>
<p>Hazards and Agency(ies) with Warnings</p>	<p>Enter “Hazard Screening not performed”</p>
<p>SECTION 3: CERTIFICATIONS AND COMPLIANCE</p>	
<p>No changes to requirements for Special Conditions</p>	
<p>SECTION 4: ACCESSORIES</p>	
<p>No changes to requirements for Special Conditions</p>	
<p>SECTION 5: GENERAL NOTES</p>	

³ Section 2.3.1 and 2.3.2 of the Cradle to Cradle's *Biological Materials Assessment Methodology*, May 2017 edition includes a more complete list of potential hazards. This standard disclaimer is intended to provide an indication that such concerns may be relevant.



No changes to requirements for Special Conditions

SECTION 6: REFERENCES

No changes to requirements for Special Conditions