

## SPECIAL CONDITION: Biological Material

Version: SCBioMats/2022-07-11

### 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., beechwood, 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 compositions 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:** This procedure is for plant-based (e.g., beechwood, cotton), animal-based (e.g., leather, wool), microbial tissue-based (e.g., biofilms, aggregates), or a mixture still in their original form and does not include biobased chemical derivatives synthesized from plant or animal material.

If the product contains pulped cellulose, recycled, or not use CAS RN 65996-61-4; NOT 9004-34-6. For other pulped wood or vegetable cellulose fiber sources (e.g., mixed wood chips or fiber) use CAS RN 9004-34-6. These would be entered into the HPD via the traditional method and not applicable to this special condition.

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.

### Required Data Reporting

The following are the data reporting requirements to be used under this Special Condition. All data reporting is optional, but lack of specific data points, as noted here, affects compliance with key indicators for the HPD [see 2.1.2.3 Characterized, Screened, Identified in the HPD Open Standard]:

- The following data is required to be provided for the content to be indicated as “Yes” for “Characterized” on the HPD report:
  - *Ingredient Description.* 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.

<i>For all contents above the threshold, the manufacturer has:</i>	
<b>Characterized</b>	<input type="radio"/> Yes <input type="radio"/> No
<i>Provided weight and role</i>	
<b>Screened</b>	<input type="radio"/> Yes <input type="radio"/> No
<i>Provided screening results using HPDC-approved methods</i>	
<b>Identified</b>	<input type="radio"/> Yes <input type="radio"/> No
<i>Provided name and CAS RN or other identifier</i>	



- The following data is required to be provided for the content to be considered “Identified” on the HPD report:
  - *Material name.* Enter a specific name for the material.
  - *Identifier.* Enter “Biological Material” when using this guidance.
  - *Ingredient Description.* 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.
  - *Biological Materials Category.* Provides detail to identify the type of biological material.
- The following data is required to be provided for the content to be considered “Screened” on the HPD report:
  - All required sections of this special conditions must have information provided to be published and to be considered “Screened.”

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

- Cradle to Cradle Certified™, *Biological Materials Assessment Methodology*, November 2021; <http://www.c2ccertified.org/resources/detail/methodology-for-the-assessment-of-biological-materials>
- International Living Future Institute, *Declare Manufacturer's Guide*, October 2018; (“Biological ingredients such as wood and agrifiber do not require disclosure of a CASRN”, Page 7)
- BIFMA e3 2019 <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 31).

## 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
<b>SECTION 1: SUMMARY</b>	
Content in Descending Order of Quantity*	<ul style="list-style-type: none"> <li>● Materials and Substances must be listed by the Material Name if applicable (BiologicalMaterial) and/ or Substance Name (SC:[common name]) as instructed in Section 2.</li> </ul>
Characterized Screened Identified*	“Yes” should be checked if all Standard requirements are met, and all reporting requirements are met below.

	If information is not available for any of the sections in this Special Condition, “no” must be selected for “Screened” and “Identified”.						
Inventory and Screening Notes*	Include the following notes: <ul style="list-style-type: none"> <li>○ “Special conditions applied: [BiologicalMaterial].”</li> </ul>						
<b>SECTION 2: CONTENT IN DESCENDING ORDER OF QUANTITY</b>							
<p><b>Materials</b> – instructions apply to both Nested Materials and Basic Inventory formats. These fields are customized to this Special Condition guidance. Fields unique to this Special Condition are marked below with a double asterisk**. This mockup shows a typical result of the following instructions:</p> <div style="border: 1px solid #ccc; padding: 10px;"> <p><b>WHITE OAK</b> <span style="float: right;">ID: <b>Biological Material</b></span></p> <hr/> <p>HAZARD DATA SOURCE: <b>HPDC Special Conditions Policy</b></p> <hr/> <p>%: <b>5.0000</b>      GreenScreen: <b>Not Required</b>      RC: <b>None</b>      NANO: <b>No</b>      MATERIAL ROLE: <b>Structure component</b></p> <hr/> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="text-align: left;">HAZARD TYPE</th> <th style="text-align: left;">AGENCY AND LIST TITLES</th> <th style="text-align: left;">WARNINGS</th> </tr> </thead> <tbody> <tr> <td colspan="3" style="text-align: center;">Hazard Screening is not applicable to this Special Condition</td> </tr> </tbody> </table> <hr/> <p>BIOLOGICAL MATERIALS CATEGORY: <b>Tree-based materials</b></p> <hr/> <p>INGREDIENT DESCRIPTION: <b>California White Oak</b></p> <hr/> <p><small>MATERIAL CONTENT NOTES: 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.</small></p> </div>		HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS	Hazard Screening is not applicable to this Special Condition		
HAZARD TYPE	AGENCY AND LIST TITLES	WARNINGS					
Hazard Screening is not applicable to this Special Condition							
Material Name	Enter common name.						
ID (Identifier):	Enter “Biological Material” OR <ul style="list-style-type: none"> <li>● For pulped cellulose, recycled or not: CAS RN 65996-61-4; <u>NOT 9004-34-6<sup>1</sup></u></li> <li>● For other pulped wood or vegetable cellulose fiber sources (e.g., mixed wood chips or fiber) use CAS RN 9004-34-6<sup>2</sup></li> </ul>						
Hazard Data Source*	Enter “HPDC Special Conditions Policy.”						
GreenScreen*	Enter “Not Required.”						
Biological Materials Category**	Enter the category of biological material, from the predefined list, as: <ul style="list-style-type: none"> <li>● Live microorganisms – includes live fungi, bacteria, and other microorganisms</li> <li>● Live plants – any member of the kingdom Plantae in its live state</li> <li>● Tree-based materials – wood planks/strips/pieces, bark, wood chips, and other wood products</li> </ul>						

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

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

	<ul style="list-style-type: none"> <li>● Plant-based materials – plant-based fibers such as cotton, hemp, ramie, rice husks, and coconut fiber</li> <li>● Animal-based materials – such as wool, silk, mohair, cashmere, and leather/skins</li> <li>● Microbial tissue-based materials – such as fungal mycelium</li> <li>● 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</li> </ul> <p>Note: A complete entry in this field is required to publish an HPD.</p>
<p>Ingredient Description**</p>	<p>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.</p> <p>Example of a complete entry for this field:</p> <ul style="list-style-type: none"> <li>● For a fir tree – <i>“Abies balsamea / Balsam Fir”</i></li> </ul> <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>Example of a complete entry for this field:</p> <ul style="list-style-type: none"> <li>● For Cellulose – <i>“Cellulose from evergreen coniferous trees (genus: Pinus, Cipressus, Cedrus, Taxus, Tsuga)”</i></li> </ul> <p>Note: A complete entry in this field is required to publish an HPD.</p>
<p>Material Content Notes**</p>	<p>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<sup>3</sup>.”</p>
<p>Hazards and Agency(ies) with Warnings</p>	<p>Enter “Hazard Screening not applicable to this Special Condition”</p>
<p><b>SECTION 3: CERTIFICATIONS AND COMPLIANCE</b></p>	
<p>No changes to requirements for Special Conditions</p>	
<p><b>SECTION 4: ACCESSORIES</b></p>	
<p>No changes to requirements for Special Conditions</p>	
<p><b>SECTION 5: GENERAL NOTES</b></p>	
<p>No changes to requirements for Special Conditions</p>	



<b>SECTION 6: REFERENCES</b>
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No changes to requirements for Special Conditions
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## VERSION CONTROL

This document replaces SCBioMats/2018-02-23. It includes the following updates:

- Edits to encompass HPD updates to version 2.3 and new Special Condition data structure.