

## SPECIAL CONDITION: Geological Material

Version: SCGeoMats/2019-06-20

### BACKGROUND

**Definitions:** The following definitions help define the scope of this Special Condition:

**Geological material:** A material extracted as-is from the earth in rock or sediment form, including rock, gravel, quarried stone, clay, sand, and other industrial minerals. For this Special Condition, the defining characteristic of a geological material is the form in which it is extracted from the earth for a specific function, e.g., gravel as aggregate in concrete.

**Mineral:** Any of a class of substances occurring in nature, usually comprising inorganic substances, as quartz or feldspar, of definite chemical composition and usually of definite crystal structure. For this Special Condition, consistent chemical composition is the defining characteristic.

**Note:** In broader usage, the term “Industrial mineral” may cover both geological materials and minerals as defined here. This policy therefore does not use this term.

**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 for geological materials.*

Geological materials are typically of variable/unknown composition depending on their extraction location, and in some cases, the potential for impurities is related to specific sources or regions. Until specific conditions are better understood, it will be difficult to monitor variability and predict the presence of impurities.

**Scope:** The following notes clarify the scope of this Special Condition:

#### Geological Materials vs. Minerals

Many minerals that are common ingredients in building products have CAS Registry Numbers, such as:

- Gypsum
- Limestone
- Quartz
- Talc
- Kaolin Clay
- Vermiculite
- Perlite
- Feldspar

Manufacturers are encouraged to use standard HPD reporting processes for these ingredients and not reference this Special Condition except in a case where this Special Condition guidance is appropriate due to variable or unknown composition, as in a particularly unrefined supply of the mineral.

Geological materials that do not have a CAS RN include the following:

- Gravel
- Sand
- Quarried stone, e.g., granite, slate, marble
- Shale

These and other geological materials that do not have a CAS RN are required to use this Special Condition guidance.

Additives

This Special Condition covers only the raw geological material itself. Any binders, coatings, and finishes, along with additives or other identifiable substances added to the material, must use the typical HPD content inventory and hazard screening process.

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

- Cradle to Cradle Certified™, *Geological Materials Assessment Methodology*, June 2017; <http://www.c2ccertified.org/resources/detail/geological-materials-assessment-methodology>
- International Living Future Institute, *Declare Manufacturer's Guide*, May 2017; <https://living-future.org/wp-content/uploads/2017/05/Declare-Manufacturers-Guide-2017.pdf>; ("Geological materials such as natural granite do not require disclosure of a CASRN; manufactured stone products require the disclosure with a CASRN of all resins/binders/sealers, but geological components do not require a CASRN", Page 6)
- BIFMA e3 2019 <https://www.bifma.org/page/e3standard> (no specific requirements)
- GHS (no specific reporting requirements; National Stone, Sand, and Gravel Association provides GHS hazard criteria - <http://www.nssga.org/safety-and-health/training-compliance-assistance/safety-data-sheets>)

**GUIDANCE/ INSTRUCTIONS:**

Special Conditions instructions for specific data fields follow; ***if there are no specific instructions listed for a data field, the typical 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 Builder

HPD 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 (GeologicalMaterial) and/ or Substance Name (SC:[common name]) as instructed in Section 2.</li> </ul>
Characterized Screened Identified*	<ul style="list-style-type: none"> <li>• “Yes” should be checked if all Standard requirements are met.</li> <li>• “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"> <li>○ “% weight and role provided for all substances except SC substances which were characterized according to SC guidance”</li> <li>○ “All substances screened using Priority Hazard Lists with results disclosed</li> </ul> </li> </ul>

	<p>except SC substances which were screened according to SC guidance”</p> <ul style="list-style-type: none"> <li>○ “All substances disclosed by Name (Specific or Generic) and Identifier except SC substances which were identified according to SC guidance”</li> </ul>
Inventory and Screening Notes*	<ul style="list-style-type: none"> <li>● If the only content not characterized, identified and/ or screened is covered by the Special Condition, Inventory and Screening Notes should include the following notes: <ul style="list-style-type: none"> <li>○ “Special conditions applied: [GeologicalMaterial].”</li> <li>○ [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.</li> </ul> </li> </ul>
<b>SECTION 2: CONTENT IN DESCENDING ORDER OF QUANTITY</b>	
<b>Materials</b> – instructions apply only to Nested Materials Inventory format	
Material Name*	Enter “GeologicalMaterial”
Material Notes*	Enter “SpecialConditionApplied:GeologicalMaterial”
<b>Substances</b> – instructions apply to both Nested Materials and Basic Inventory formats	
Substance Name	Enter most descriptive name available preceded by “SC” (e.g., “SC: Basalt” or “SC: Slate,” not “SC: Rock”)
ID (Identifier):	Enter “SC:GeoMat”
Substance Notes	<ul style="list-style-type: none"> <li>● Enter the most recent Special Condition version nomenclature with date, available on the Emerging Best Practices web page (e.g., Version = SCGeoMats/2019-06-20).</li> <li>● Enter defaults – Inventory Threshold = N/A, Residuals and Impurities = “Not considered”</li> <li>● Provide available information on: <ul style="list-style-type: none"> <li>○ Origin (country and, if available, exact location of quarry / extraction area)</li> <li>○ Typical composition (if available)</li> <li>○ Potential presence of toxic metals (defined as antimony, arsenic, cadmium, chromium VI, cobalt, lead, mercury, nickel, thallium, tin, uranium, and vanadium)<sup>1</sup>.</li> </ul> </li> <li>● For rock- or stone-based materials (e.g., sandstone, slate, granite), provide available information on the presence of radioactive elements, namely radium, thorium, and potassium 40 (K40).<sup>2</sup></li> <li>● If no information is available, include the statement/disclaimer, “This disclosure does not provide typical composition or potential presence of toxic metals or</li> </ul>

<sup>1</sup> Cradle to Cradle Certified, *Geological Materials Assessment Methodology*, June 2017, page 5.

<sup>2</sup> Cradle to Cradle Certified, *Geological Materials Assessment Methodology*, June 2017, page 6.

	radioactive elements which may be found in certain geological materials.”
Hazards and Agency(ies) with Warnings*	Enter “Hazard Screening not performed”
<b>SECTION 3: CERTIFICATIONS AND COMPLIANCE</b>	
No changes to requirements for Special Conditions	
<b>SECTION 4: ACCESSORIES</b>	
No changes to requirements for Special Conditions	
<b>SECTION 5: GENERAL NOTES</b>	
No changes to requirements for Special Conditions	
<b>SECTION 6: REFERENCES</b>	
No changes to requirements for Special Conditions	

## VERSION CONTROL

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

- Addition of specific definitions for “Geological material” and “Mineral”
- Clarification that this Special Condition policy is intended for Geological Materials with no CAS RN; minerals that do have a CAS RN should not typically follow this guidance
- Update to BIFMA e3 2019
- Minor edits to encompass HPD updates to version 2.2.