

ADVANCING TRANSPARENCY & MATERIAL HEALTH

THE PATH TO LIVING AND WORKING IN HEALTHY SPACES

BEYOND DISCLOSURE

A review of existing disclosure documentation reveals that the current information available may not provide a complete view of the impact building products have on both human health and the environment. The new Material Health Statement, developed by the Environmental Protection and Encouragement Agency (EPEA) and Tarkett, goes beyond disclosure, providing both human and environmental risk and hazard assessment and identifying product optimization actions to promote wellness and protect the environment — today and in the future.

Concern for human health and wellness has led to a search for information regarding products for the built environment.

Recent reports indicate we spend approximately 90% of our time indoors.¹ As we've tightened the building envelope to save energy during the last few decades, we've also sealed buildings to the point of negatively affecting indoor air quality.² Stories concerning sick building syndrome³, the rise in asthma and allergy sufferers,⁴ and other health issues have made clear the importance of considering the building materials with which we surround ourselves. As a result, consumers, many architectural firms and non-government organizations (NGOs) are seeking greater transparency to help them understand the impact of finishes on the well-being of people in interior spaces.

Additionally, while concern for the potential health impacts of the materials with which we construct buildings has always been an integral part of the US Green Building Council's LEED® rating system, LEED v4⁵ is raising the bar by including credits based on programs that evaluate material health more broadly than VOC emissions certification programs.

Disclosure documentation options

In response to market demand, various organizations have created a variety of transparency documents and certifications, which are now available to aid informed product purchasing decisions. Tools and certifications such as Declare, Health Product Declaration (HPD) using the GreenScreen® List Translator, Full GreenScreen Hazard Assessment, and Cradle to Cradle® work with businesses to disclose chemicals used in the manufacture of their product. While all noted are recognized by LEED, Tarkett believes that simply knowing a certain chemical exists in a product is not enough.

Transparency is the first step to achieving environmental and health objectives for the built environment. However, many transparency tools merely enumerate the hazard level without determining exposure and risk.

Some of the aforementioned transparency documents provide users with a Material Inventory or both a

Material Inventory and Material Screening. **Material Inventory** is simply a list of all the raw materials used in production. Relying on only a Material Inventory disclosure would require either prior knowledge of these chemicals or further research to determine whether or not the chemicals pose a threat to human health. Some transparency documents provide added information resulting from a **Material Screening**, in which all chemicals are reviewed and compared to one or more lists, such as Green Screen List Translator, to determine the chemicals' hazard rating. Any chemicals of concern are identified at this point, and the hazards of particular chemicals are publicly disclosed. However, there is no understanding or verification of the final product composition or behavior of those chemicals during use and post-use handling. And most existing documents are difficult to decipher.

A comprehensive, easy-to-read alternative

A new disclosure declaration that strives to cut through the confusion, go deeper than the others, and still maintain a manufacturer's privacy in regard to proprietary information now exists — the Material Health Statement (MHS).

The Environmental Protection and Encouragement Agency (EPEA) in partnership with Tarkett — a global leader in solutions for flooring and sports surfaces — developed the MHS. Prof. Dr. Michael Braungart founded the EPEA. He is known globally as co-founder of the Cradle to Cradle design framework, and conducts Cradle to Cradle assessments based on European precautionary principle, in which any amount of plausible exposure is deemed to be sufficient to rate a chemical as posing a risk due to identified, suspected, or unknown health hazards.⁶ Tarkett has worked with EPEA since 2011, optimizing and developing products using the Cradle to Cradle Certified™ Product Standard and ensuring continuous improvement of products based upon five attributes: material health, material reutilization, renewable energy and carbon management, water stewardship, and social fairness.⁷ Following the Cradle to Cradle framework is one step Tarkett is undertaking to move forward on their journey to contribute to a circular economy that aims to keep products, components, and materials at their highest utility and value at all times, distinguishing between technical and biological cycles.⁸

To make real and significant changes, Tarkett challenges other manufacturers to go a step further and not only inventory and screen, but also assess and optimize products for present and future use. **Material Assessment** involves gaining an understanding of whether or not the chemicals of concern identified during the screening result in exposure or associated risks to users of the final product. Once this information is determined, products need to be **Optimized** to use the best materials for optimum quality, safety and human and environmental health.

The MHS is a third-party verified product ingredient disclosure *and* material assessment declaration that uses the chemical ingredient evaluation results obtained through the Cradle to Cradle material assessment process. After materials are evaluated, they are given a color-coded rating, making it easy to read and understand. It was designed to meet the requirements of LEED v4 MRc4 Building Product Disclosure and Optimization — Option 1 — Material Ingredient Disclosure. To date, 95 percent of chemical ingredients and raw materials used at Tarkett have been assessed by EPEA, with a goal of having 100% of the chemicals evaluated by 2020.

The EPEA MHS process encompasses the following four steps:

- **Material Inventory:** In collaboration with suppliers, identify and disclose the raw materials used in products to 100 ppm (parts per million) and identify them by their Chemical Abstracts Service Registry Number (CASRN).
- **Material Screening:** Individual chemicals are screened for their hazard rating using the Green Screen List Translator (GS-LT), along with more than 100 other chemical hazard lists and scientific sources of toxicological information in use at the EPEA.
- **Material Assessment:** The Cradle to Cradle material assessment is specific to the manufacturers' material ingredients and suppliers. Materials are assessed over their lifecycle including sourcing, production, use and post-use handling. Chemical ingredients are profiled for their safety using eco-toxicological

information, scientific literature, supplier data and analytical testing. The chemical role in the finished product and its effect on occupant exposure is evaluated.

- **Optimization:** Products are reformulated using Cradle to Cradle principles by selecting materials that are safe, healthy, and beneficial for humans and the environment and that can be perpetually cycled.

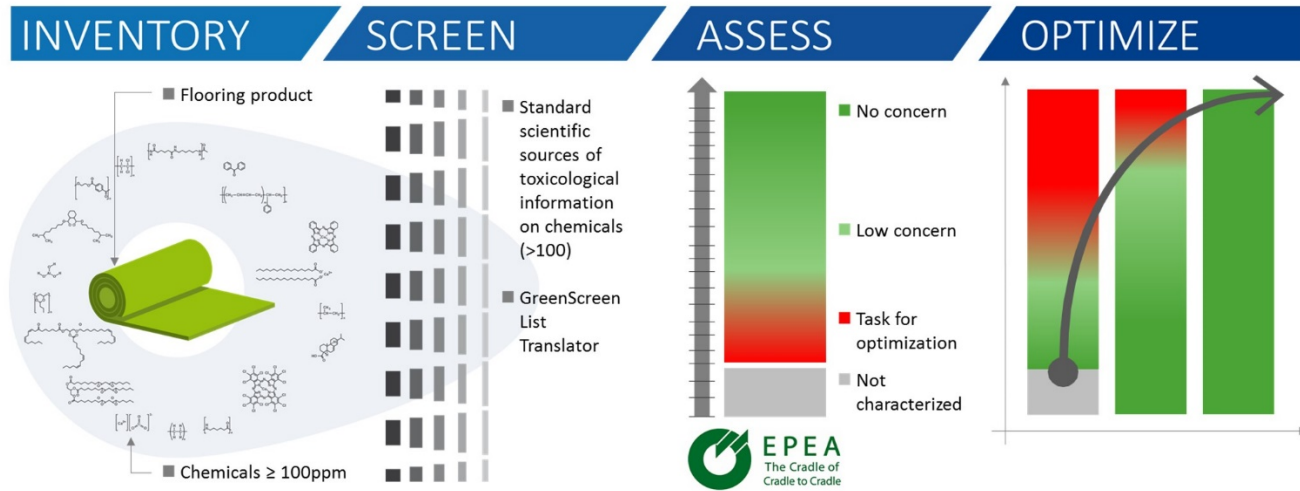
The MHS Difference

How is this different from other declaration documents in the market today? The MHS presents the results of a third party, science-based, hazard and full-risk assessment of the ingredients by considering the potential impacts through all product steps (extraction, production, use, recycling). All supply chain materials specific to Tarkett are assessed and the risks — how chemical hazards combine with likely exposures to create potential threats to human health and the environment — are ascertained. Additionally, the supply chain is reviewed in regard to social fairness of operations to respect all people and natural systems affected by the creation, use, disposal, or reuse of a product. **Other transparency formats — Declare, HPD and GreenScreen List Translator — provide only self-declared hazard information for individual chemical ingredients without evaluating their concentration, role in the product, exposure level, or risk to users.**

The MHS was developed in an effort to promote product transparency in a way that is easy to read and understand. Unlike other available methodologies, it is intended to address the environmental *and* human health risk of a finished product (including worker exposure), as well as the hazards associated with ingredients used to make it. Transparency or material reporting was the first step. To make real and significant changes, manufacturers need to go a step further and not only inventory, screen, and assess, but also optimize products. Only then will tomorrow's buildings enhance the human experience, promote wellness, and allow us to live and work in spaces that are made of healthy products.

Tarkett's Path to Positive Optimization Strategy

BASED ON CRADLE TO CRADLE® METHODOLOGY



For further information, please go to www.tarkettna.com/mhs.

REFERENCES

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