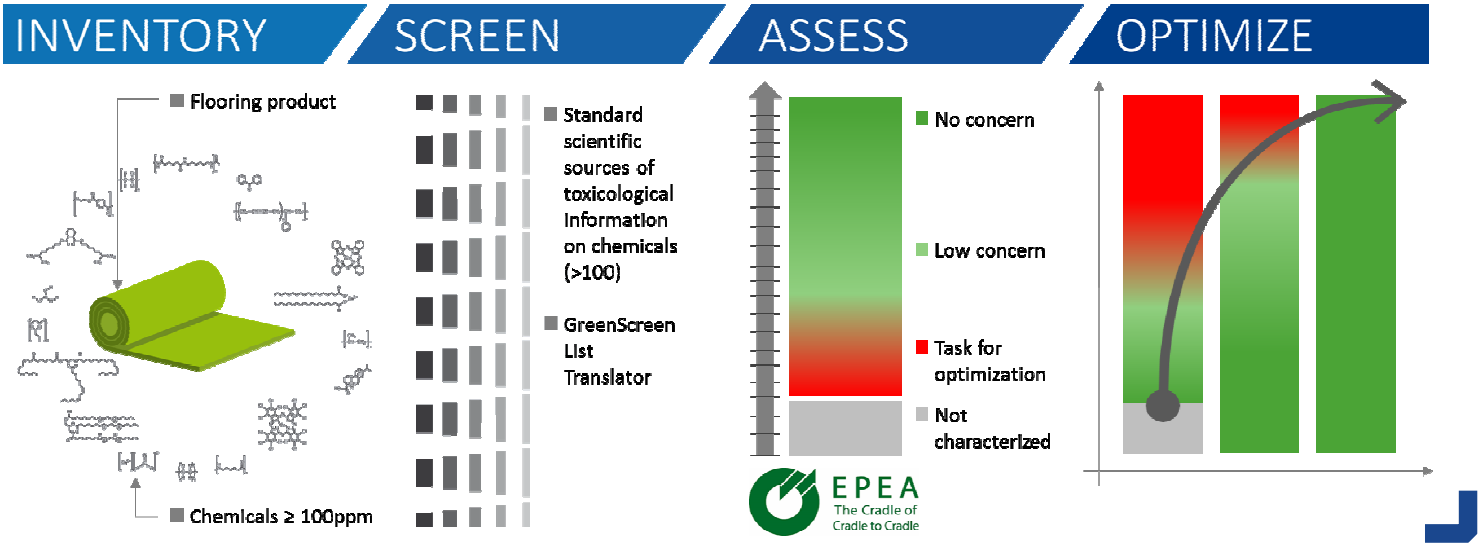
Tarkett's Path to Positive Optimization Strategy

It is estimated that we spend approximately 90% of our time indoors, therefore, it is important to consider the building materials with which we surround ourselves. Tarkett's goal is to design products that will enhance the human experience and allow us to live and work in spaces that promote health and well-being. Transparency and material reporting is essentially the first step but in order to make real and significant changes, we need to go a step further and not only inventory, screen and assess, but also optimize products for present and future uses.

At Tarkett, the optimization of our product compositions is at the core to our "Closed Loop, Circular Design" strategy powered by Cradle to Cradle® principles and the Circular Economy.
Tarkett's goal is to design our products today to be our raw materials of tomorrow, applying the first Cradle to Cradle® principle (Waste = Food), to select healthy and safe materials that can be perpetually cycled.



The Cradle to Cradle Product Optimization process is based on the following 4 steps:

- **Material Inventory:** In collaboration with our suppliers, we inventory the raw materials used in our products to 100 ppm (parts per million) and identify them by 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 chemical hazard lists and scientific sources of toxicological information in use at EPEA (Environmental Protection and Encouragement Agency.
- **Material Assessment**: Material Assessment: The product and its materials are assessed according to the Cradle to Cradle® principles and considering both the intrinsic hazard/safety properties of chemicals and occupant exposure. The product's environmental and health quality is assess on the basis of a target scenario where materials involved in sourcing, production, use and post-use handling can serve as technical nutrients for future production or interact beneficially with exposed organisms and ecosystems as biological nutrients. The assessment is conducted by EPEA, the European Cradle to Cradle scientific research Institute based in Germany. For more information, please visit EPEA website (http://www.epea.com/).
- **Optimization:** By using this third party material assessment methodology, our goal is to select materials that are safe, healthy and beneficial for humans and the environment and that can be perpetually cycled.

Thank you for considering our products and for your commitment to improving the built environment.

Diane Martel
Vice President of Environmental Planning and Strategy

Dhruv Raina
Product Sustainability Director

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Material Health Statement - MHS™

EPEA The Cradle of Cradle to Cradle

Baseworks

Issued to: Tarkett
Issue date: 12.10.2017
Expiration date: 11.10.2019
Evaluation threshold: At least 100 ppm of the final product
After-use scenario: Tarkett ReStart® program
EPEA Registry No: 39582.2 MHS Version: 2.0

CERTIFIED cradle to cradle SILVER
Valid until 20. June 2019

FUNCTION	CHEMICAL COMPONENTS	CASRN	CONTENT	EPEA RATING	COMMENT ON EPEA RATING	GS-LT/ GS-BM**	REACH
Polymers	Cis 1,4 Polyisoprene	9003-31-0	15-20%		Expectable carcinogenic and monomer residues are not detected in VOC tests	LT-UNK	✓
	Styrene butadiene copolymer	9003-55-8				LT-UNK	✓
Fillers	Calcium carbonate	471-34-1	50-70%		Minerals added as fillers or originating from additive formulations. No carcinogenicity risk expectable from <1%quartz content in these inputs	LT-UNK	✓
	Kaolin	1332-58-7				LT-UNK	✓
	Quartz	14808-60-7				LT-1	✓
	Other filler	Proprietary 3				N.I.	✓
Vulcaniza-tion agents	Sulfur	7704-34-9	1-2%		Chemical transformation of organic chemicals of the vulcanization system. VOC Analyses show concentrations far below Derived-No-Effect-Levels (DNEL) for products of chemical transformation associated potentially with health issues	LT-UNK	✓
	Zinc oxide	1314-13-2				LT-P1	✓
	Vulcanization chemicals	Proprietary 1				LT-P1	✓
						LT-UNK	✓
						LT-P1	✓
Antioxi-dants	Antioxidants	Proprietary 1	<1%		A risk with antioxidants in the application and during grinding-based recycling isn't seen. one antioxidant is however recommended for substitution since it presents toxicological relevance after repeated exposure to the pure substance.	LT-P1	✓
						LT-UNK	✓
Process aids	Petroleum distillates	Proprietary 1	9-13%		Processing aids involved in the production of Baseworks or production inputs. No risk expectable. Specifications on impurities of petroleum distillates for exemption of classification as carcinogens do apply	LT-1	✓
	Calcium oxide	1305-78-8					
	Paraffin wax	64742-43-4				LT-UNK	✓
	Liquid processing aid	Proprietary 1				LT-UNK	✓
	Blend of fatty acids, calcium soaps and an amide	Proprietary 3				N.I.	✓
	Stearic acid	57-11-4				LT-UNK	✓
	Filler processing aids	Proprietary 3				N.I.	-
	Masterbatch additives	Proprietary 2				BM2 LT-1 LT-P1 LT-UNK	✓

FUNCTION	CHEMICAL COMPONENTS	CASRN	CONTENT	EPEA RATING	COMMENT ON EPEA RATING	GS-LT/ GS-BM**	REACH
Pigments	Titanium dioxide	13463-67-7	0-3%		Potential health issues related to dust inhalation during production. No concern in the finished product	BM1	✓
	Carbon black	1333-86-4				BM1	✓
	Iron oxide pigments	1309-37-1				BM2	✓
		51274-00-1				LT-UNK	✓
	Other pigments	Proprietary 2			Halogenated organic compounds	LT-UNK	✓
						BM3 LT-UNK	✓
Other	Undefined	Undefined	<0.7%		Undefined components of natural rubber and fillers	N.I.	-

EPEA's rating methodology is based on the Cradle to Cradle approach with the European Precautionary principle. It is made in relation with a quality target, an after-use scenario and on the background of the specific supply chain materials used by the article's manufacturer. The assessment of hazard/safety properties of chemicals is made at the best of our knowledge at the date of MHS™ issue: (See MHS development Guideline V2.0). EPEA believes the data forth herein are accurate as of the date hereof. EPEA makes no warranty with respect thereto and expressly disclaims all liability for reliance thereon. Such data are offered solely for your consideration, investigation and verification.

Michael Braungart
CEO
EPEA Internationale Umweltforschung GmbH

Alain Rivière
Senior Scientist
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Legend:

EPEA RATING:
- No concern
- Moderate concern
- High concern – Task for material optimization
- Unknown concern – Task for knowledge development

REACH compliance:
✓ : Substance complies with REACH regulation European Union Regulation EC 1907/2006 applicable to this article or substance is listed neither in Annex XIV nor in Annex XVII nor as SVHC
XVII or **XIV**: Substance listed in Annex XVII (Restriction) or Annex XIV (Authorisation) of REACH regulation applicable to this article
SVHC: Substance of Very High Concern. Candidate for listing in Annex XIV (Authorization list) of REACH Regulation at a concentration above 0.1%

GS-LT*
LT-1: Chemical is found on an authoritative list of the most-toxic chemicals
LT-P1: Chemical may be a serious hazard, but the confidence level is lower
LT-UNK: Unknown (no data on List Translator Lists)

GS- BM*
BM1: Avoid: Chemical of High Concern
BM2: Use but search for Safer Substitutes
BM3: Use but still opportunity for improvement
BM4: Prefer: Safer Chemical
BMU: "Unspecified"; insufficient data
N.I. (No GS rating): Chemical is not listed in the source of GS and GS-LT ratings

* GreenScreen List Translator Score and GreenScreen Benchmark Score according to Toxnot classification (https://toxnot.com/)

** For EPEA's position on PVC and chlorine management. Please see: http://epea.com/de/node/1322

Proprietary 1, 2 or 3: Distinguishing between owners of information (see MHS Development Guideline V2.0)

LEED v4 – Score Card

Johnsonite Rubber Wall Base (BaseWorks®)

PRODUCTS COVERED BaseWorks®

MATERIAL & RESOURCES

MRc2. Building product disclosure and optimization – Environmental Product Declarations

☑ Option 1: Environmental Product Declaration (EPD) – 1 point

☑ Product-specific EPD ☐ Industry-wide (generic) EPD ☐ Product-specific declaration

☐ Option 2: Multi-attribute Optimization – 1 point

☐ 3rd party certified products that demonstrate impact reduction below industry average

MRc3. Building product disclosure and optimization – Sourcing of Raw Materials

☑ Option 1: Raw Material Source and Extraction Reporting – 1 point

☑ U.N. Global Compact ☐ GRI Sustainability Report ☐ ISO 26000 ☐ OECD

☑ Option 2: Leadership Extraction Practices – 1 point

Bio-based materials	Pre-Consumer	Post-Consumer	Manufacturing Location	Extended Producer Responsibility
2.3%	-	-	Middlefield, OH	Yes (ReStart® program)

MRc4. Building product disclosure and optimization – Material Ingredients

☑ Option 1: Material Ingredient Disclosure – 1 point

☑ Manufacturing Inventory ☑ Cradle to Cradle Certification ☐ Declare ☐ HPD

☑ Option 2: Material Ingredient Optimization – 1 point

☑ Cradle to Cradle Certification ☐ GreenScreen Benchmark ☐ REACH ☐ Other

MRc5. Construction and demolition waste management

☑ Reclamation and recycling program proposed – Tarkett's ReStart® program

INDOOR ENVIRONMENTAL QUALITY

EQc1. Enhanced Indoor Air Quality strategies

☐ Enhanced IEQ Strategies – Abrasive Action entry walk-off systems – 1 point

EQc2. Low-emitting materials

☑ Certification compliant with California Department of Public Health (CDPH) – FloorScore®

TVOC emissions ☑ 0.5 mg/m^3 or less ☐ Between 0.5 and 5.0 mg/m^3 ☐ 5.0 mg/m^3 or more

For more information please contact us: mhs@tarkett.com

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