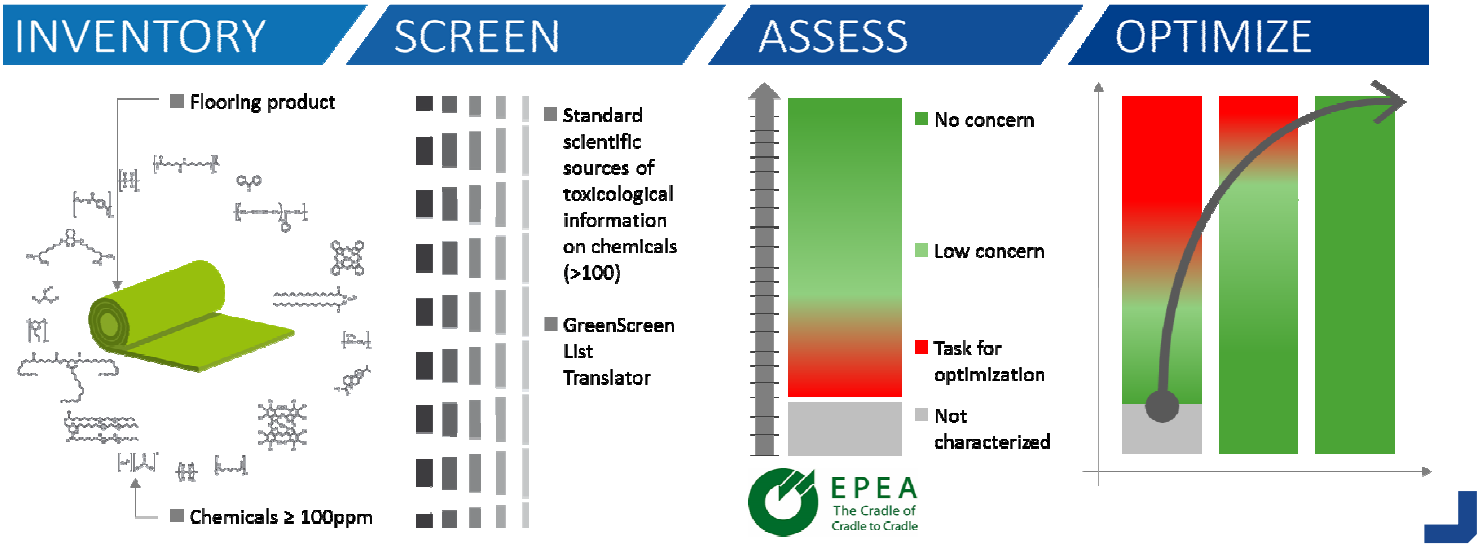
Tarkett's Path to Positive Optimization Strategy

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), the European Cradle to Cradle scientific research Institute based in Germany. For more information, please visit EPEA website (http://www.epea.com).
- **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 assessed on the basis of a target scenario where materials involved in sourcing, production, use and post-use handling serve as technical nutrients for future production or interact beneficially with exposed organisms and ecosystems as biological nutrients. The assessment is conducted by EPEA.
- **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.

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

Diane Martel
Vice President of Environmental Planning and Strategy

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North American Technical Manager

Tarkett | THE ULTIMATE FLOORING EXPERIENCE

OMNISPORTS

Issued to: TARKETT

Product specifications Active uni, Compact 4 uni, Excel uni, Pureplay uni, Reference uni, Reference Multi-Use, Speed uni, Training uni, Training 5.5 uni

Issue date: 01.07.2020

Expiration date: 30.06.2022

Evaluation threshold: At least 100 ppm of the final product

After-use scenario: TARKETT ReStart® Program

EPEA Registry No: 39859.2

MHS Version: 2.0

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING	COMMENT	GS-LT GS-BM[(b)]	REACH
Polymer	Polyvinylchloride*	9002-86-2	35 - 50%		Transitional use of PVC is tolerated in durable applications designed with safe materials and a collection and recycling program in place[(a)]. Tarkett provides a take back guarantee after use within the ReStart® reclaiming program. Vinyl chloride content is below 1 ppm in purchased products.	LT-P1	✓
	Polymerization additives*	Proprietary 3	1-2%		Polymerization additives are proprietary to suppliers (estimated maximum amount based on scientific literature data).	N.I.	✓
Filler	Calcium Carbonate*	1317-65-3	20-40 %		Fillers consist of calcium carbonate of virgin and recycled origin and other mineral components of the former PVC use. Natural minerals with low levels of quartz. No concern in the finished product.	LT-UNK	✓
	Magnesium Carbonate	13717-00-5				LT-UNK	✓
	Aluminium hydroxide*	21645-51-2				BM2	✓
	Glass fibres*	65997-17-3	< 0.4%			LT-UNK	✓
	Quartz*	14808-60-7	< 0.5%			LT-1	✓
Plasticizers	Diisonylcyclohexane (DINCH)*	166412-78-8	18 - 30%		Alternatives to phthalate plasticizers. DINCH is produced by hydrogenation of DINP with thus modified properties. No toxicity identifiable, especially no mutagenicity, carcinogenicity or reproductive toxicity observed in animal tests. Capacity of MINCH (primary metabolic product of DINCH) to interfere with the metabolism and differentiation of adipocytes in *in-vitro* experiments was assumed in 2015 but convincingly refuted in more recent scientific publications. DBT is an equivocal sensitizer. No concern expected with DBT and its synthesis impurity MBT.	LT-UNK	✓
	Dibutyl terephthalate (DBT)*	1962-75-0				N.I.	✓
	Bis(2-ethylhexyl)adipate (DEHA)	103-23-1				LT-P1	✓
	Tributyl O-acetylcitrate (TBC)*	77-90-7				LT-P1	✓
	Methyl butyl terephthalate (MBT)	52392-55-9				N.I.	✓
	Methylisonylcyclohexane (MINCH)	-				N.I.	✓
Heat Stabilizers	Soybean oil, epoxidized	8013-07-8	< 2%		Scavenger of hydrochloric acid (that may be formed during the flooring use period) with plasticizing effect. Zinc is essential trace element. Migration potential of the different components of the heat stabilization system is unknown.	LT-P1	✓
	Triisotridecyl phosphite	77745-66-5				LT - P1	✓
	Triisodecyl phosphite	25448-25-3				LT-P1	✓
	Zinc octanoate	136-53-8				LT-P1	✓
	Potassium octanoate	764-71-6				LT-UNK	✓
	Zinc neodecanoate, basic	84418-68-8				N.I.	✓
	Sodium octanoate	1984-06-1				LT-UNK	✓
	Dibenzoylmethane	120-46-7				LT-UNK	✓

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING	COMMENT	GS-LT GS-BM[(b)]	REACH
Pigments	Titanium dioxide*	1317-70-0	< 0.5%		Potential health issue related to dust inhalation during mining/production of titanium dioxide. No concern in finished product. Chlorinated pigments and pigments containing copper represented among organic pigments	LT-1	✓
	Carbon black	12768-98-8				BM1	✓
	Other pigments*	Proprietary 1				N.I.	✓
						LT-P1	✓
		Proprietary 3				N.I.	✓
Carrier	Nonwoven glass fibre tissue	Proprietary 3	< 1.2%		The length of glass fibres exceeds 10 µm. No contribution of the formaldehyde-based binder to formaldehyde emissions of the flooring product	LT-UNK	✓
	Proprietary	Proprietary 2				LT-UNK	✓
	Melamine urea formaldehyde resin	25036-13-9				LT-UNK	✓
Processing aids, additives, and impurities	Azodicarbonamide	123-77-3	< 1.3%		Azodicarbonamide has mutagenic potential and is classified as substance of very high concern (SVHC) in the EU for its strong sensitization potential. It decomposes, however, to toxicologically benign air components during the application. It is mentioned in this context but not counted in the content figure, since it is absent as such in Omnisport products.	LT-UNK	✓
	Zinc oxide	1314-13-2				BM1	✓
	Benzene, C10-13 alkyl derivatives	67774-74-7				LT-UNK	✓
	2-(2-n-Butoxyethoxy) ethanol	112-34-5				LT-P1	✓
	Proprietary (other than PVC polymerization additives)	Proprietary 2				N.I.	✓
						LT-UNK	✓
						LT-P1	✓
		Proprietary 3				N.I.	✓
	Not identifiable in the recycled content*	-	< 1%			N.I.	✓
Coating	Acrylic urethane polymer dispersion	Proprietary 3	< 0.5%		Polyurethane acrylate coating chemistry that is UV cured during application.	N.I.	✓

THEREOF

Content sourced from abundant minerals		40 - 76%	Fillers, glass fibre components as well as the chlorine part of PVC originate from abundant mineral resources.
Recycled content	- Internal post-industrial source (Reprocessed production output)	10-25%	Post-industrial PVC flooring and - to a minor extent – post-installation residues reclaimed in the frame of Tarkett's ReStart® program build-up a recycled content with a composition representative of the composition of virgin products and a chemical definition ≥ 98%. Recycled content is contributing to figures of chemicals highlighted with *
	- Post-installation / Pre-use source		
	- Post-use source	-	
Biologically renewable content	- Animal	0.5-1%-	Biological oils of undefined origin contribute to the figure for biologically renewable content.
	- Vegetal		

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 (more information in the "MHS development Guidance V2.0", link in the legend below). 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.

Dr. Peter Mösle
Partner & Managing Director

Dr. Alain Rivière
Scientific Supervisor

EPEA
PART OF DREES & SOMMER

Legend:

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

REACH compliance:
✓: Substance is listed neither in Annex XIV nor in Annex XVII nor as SVHC and complies with European Union Regulation EC 1907/2006 applicable to this article.
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%
- : Not applicable due to missing CAS

GS-LT[(b)]
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[(b)]
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

(a) Please refer to EPEA's position on PVC and chlorine management

(b) GreenScreen List Translator Score and GreenScreen Benchmark Score according to Toxnot.

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

LEED v4 – Score Card

Omnisports

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
-	19-31%	-	Sedan, FR	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/m³ or less ☐ Between 0.5 and 5.0 mg/m³ ☐ 5.0 mg/m³ or more

For more information please visit www.tarkettna.com/mhs or contact us mhs@tarkett.com

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