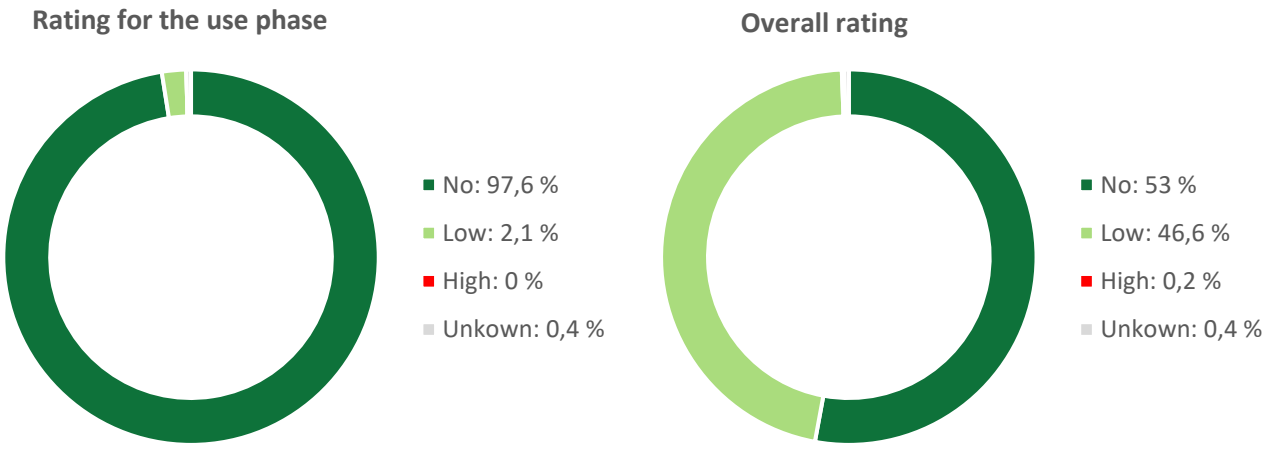
Plus Range

Company:	**TARKETT**
Product specifications	Contract Plus, Standard plus 1.5mm, Standard plus 2.0, Vylon Plus, Vylon Plus PUR
Issue date:	11. October 2024
Expiration date:	10. October 2026
Evaluation and declaration threshold:	At least 100 ppm of the final product
After-use scenario:	Tarkett proposes to take back your installation residues and your products after use, thanks to the TARKETT ReStart® Program. **Check Tarkett national websites for Restart program availability**
EPEA Registry No:	40540.2
MHS Version:	3.0

Chemicals Risk Assessment: Concern level



This summary presents the average mass weighted distribution of material health ratings presented on next pages. Ratings address benefits and risks of chemical components of the product for humans and the living environment:

- during the phase of use of the product.
- overally while taking into account a) the last manufacturing step using raw materials leading to them in the product's composition, b) the production of raw materials in the supply chain as far as information is attainable from suppliers or from generic literature, and c) the intended management scenario after use.

The benefit and risk analysis follows a qualitative and quantitative breakdown of the product's chemical composition from the chemical composition of raw materials, a reconstruction of chemical transformation pathways and an anticipation of the chemical's behaviour during the intended after-use processing. This information is combined with physical and (eco)toxicological properties of pure chemicals obtained from governmental and non-governmental scientific organisations to derive a level of concern.

The MHS is making transparent at a point in time results of the company's activities for developing benefits of the product, including environmental and health benefits, with its purchasing and commercialization practices.

Plus Range

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING		GS-LT GS-BM[a]	REACH
				Use phase	Overall		
PVC	**Polyvinylchloride**	9002-86-2	< 32.7%			LT-P1	✓
	PVC polymerization additives[b]	*Proprietary[c]*	< 0.3%			N.I.	-
	Transitional use of PVC is tolerated in durable applications designed with good materials and a collection and recycling program in place[d]. Vinyl chloride content is below 1 ppm in purchased products. The PVC resin products are produced with chlorine originating from membrane-based chloralkali processes according to today best available technologies. Suppliers of the PVC resin products do not disclose the identity of polymerization auxiliaries. Mentioned amounts are estimate maxima based on scientific literature and the knowledge of the polymerization process type. *Nanomaterials: No.*						
Fillers	**Calcium carbonate**	**471-34-1**	< 62%			LT-UNK	✓
	Dolomite	**16389-88-1**				LT-UNK	✓
	Crystalline silica - Quartz type[b]	*14808-60-7*				LT-1	✓
	Diiron oxide	*1309-37-1*				BM1	✓
	Undefined impurities	*Not available*				N.I.	-
	Fillers consist of pulverized calcium carbonate of virgin origin with particles with a mean size varying between 2 and 35 µm depending on raw materials involved respectively and specifically in individual specifications. Calcium carbonate and glass fibres originating from recycled flooring recover a function as filler. Low levels of quartz contained in virgin calcium carbonate raw materials. *Nanomaterials: No*						
Plasticizers	**1,2-Cyclohexanedicarboxylic acid, 1,2-diisononyl ester (DINCH)**	**166412-78-8**	< 12%			LT-UNK	✓
	1,2-Cyclohexanedicarboxylic acid, 1-methyl, 2-iisononyl ester (MINCH)[b]	*Not available*				N.I.	✓
	Alternative to phthalate plasticizers partially approved for food contact application with high migration limit reflecting a much better safety profile. No toxicity identifiable, especially no mutagenicity, carcinogenicity or reproductive toxicity observed in animal tests. No concern with synthesis impurities MINCH irrespective of their amount <0.1% in the total composition. *Nanomaterials: No*						
Heat stabilizers	**Soybean oil, epoxidized (ESBO)**	**8013-07-8**	< 2.5%			LT-P1	✓
	Fatty acids, C16-18, zinc salts	**91051-01-3**				LT-UNK	✓
	Other components of a calcium/zinc heat stabilizer components	**Proprietary**				LT-UNK	✓
						LT-P1	✓
	ESBO is a scavenger of hydrochloric acid that may be formed during the production and the flooring use period. It has additionally a plasticizing effect. The migration potential of hazardous components of the heat stabilization system is expected low if not even absent due to absence of volatility. *Nanomaterials: No*						

Plus Range

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING		GS-LT GS-BM[(a)]	REACH
				Use phase	Overall		
Coloration agents	**Titanium Dioxide**	**13463-67-7**	< 1.8%			LT-1	✓
	Carbon Black	**61512-59-2**				BM1	✓
	Pigment Yellow 83	**5567-15-7**				LT-P1	✓
	Pigment Yellow 110	**5590-18-1**				LT-P1	✓
	Pigment Yellow 95	**5280-80-8**				LT-P1	✓
	C.I. Pigment Blue 15	**147-14-8**				LT-UNK	✓
	Pigment Red 144	**5280-78-4**				LT-UNK	✓
	Pigment Red 254	**84632-65-5**				LT-UNK	✓
	The globally non-consensual labelling of titanium dioxide with the H351i (Suspected of causing cancer via inhalation) applies to titanium dioxide in powder form containing 1 % or more of particles with aerodynamic diameter ≤ 10 µm. This does not apply to titanium dioxide products used for the production of Plus Range. Potential health issue related to dust inhalation during mining/production of titanium dioxide raw materials not excluded, though. No concern in the finished product due to encapsulation in the polymer matrix. *Copper containing pigments are not recommended in the context of PVC for prevention of the formation of dioxins in case of accidental fire. No issue under normal conditions of use and in the target ReStart® recycling scenario.* *Chlorinated pigments are seen problematic because their demand contributes to stabilizing the general market offer of chemicals not supported by the charter for a responsible use of PVC and chlorine management[(d)].* *Nanomaterials: No*						
Other additives, processing aids and impurities	**Fumes, silica**	**69012-64-2**	< 0.35%			LT-P1	✓
	Aluminium orthophosphate	**7784-30-7**				LT-UNK	✓
	Aluminium hydroxide	**21645-51-2**				BM2	✓
	Other additives	**Proprietary**				N.I.	-
	Additives and formulation auxiliaries that have a function in the product or had a function to produce raw materials. No concern seen. *At most 0.4% of the total product composition, originating from both virgin and recycled content, are not defined in this functional category.For the other identified components, no significant hazards and no risk expectable.* *Nanomaterials: No*						
Surface Treatment	**2-Propenoic acid, reaction products with dipentaerythritol**	**1384855-91-7**	< 1.2%			LT-UNK	✓
	Urea, polymer with formaldehyde	**9011-05-6**				LT-P1	✓
	Precursors of the surface treatment	**Proprietary**				LT-UNK	✓
						LT-P1	✓
						N.I.	-
	Complex coating macropolymer based on polyurethane acrylate that is UV cured during application. It fulfils a double function as protection of the flooring against abrasion during use and barrier against migration of mobile chemicals to the indoor environment. Chemicals listed in this section are not present as such in the finished product anymore and have lost properties that lead to specification for hazard labelling of raw materials. When chemical precursors of the surface treatment are sensitizing, they lose this property during curing. While recycling the flooring product within the ReStart® process, surface treatment chemicals lose their function and contribute as a filler without detrimental impacts to the safety properties of flooring products of the next generation. *Nanomaterials: No*						

Plus Range

THEREOF			
Content sourced from abundant minerals		81 - 86%	The fillers calcium carbonate and dolomite and the chlorine of PVC originate from abundant mineral resource.
Recycled content	- Internal post-industrial source (Reprocessed own production output)	25.5%	The Plus Range is produced exclusively with virgin raw materials.
	- Post-installation / Pre-use source	-	
	- Post-use source	-	
Biologically renewable content	- Animal	-	No chemical with a possible animal origin is identified.
	- Vegetal	1.5 - 2.2%	Epoxydized soybean oil is of vegetal origin.

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 further MHS V3.0 Development Guidance). 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 RATINGS	REACH compliance:	GS-LT[(b)]	GS- BM[(b)]
No concern Low concern High concern – Task for material optimization Risk cannot be verified Task for knowledge development	✓: 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	**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)	**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) GreenScreen List Translator Score and GreenScreen Benchmark Score according to 3E Exchange

(b) Component originating either from the natural resource or from virgin or recycled raw material without functionality in the product's context.

(c) Proprietaries can be due to the decision of the producer or result from non-communication of the full composition of used raw materials either to producer, or to EPEA, or both.

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