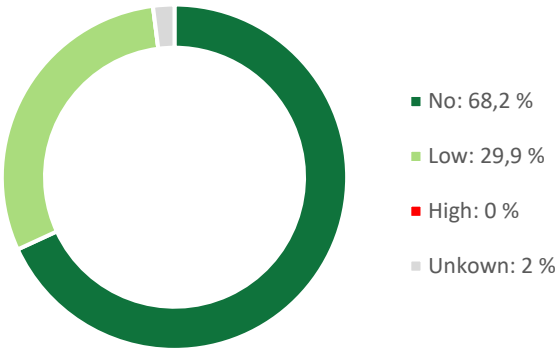
LVT Gluedown

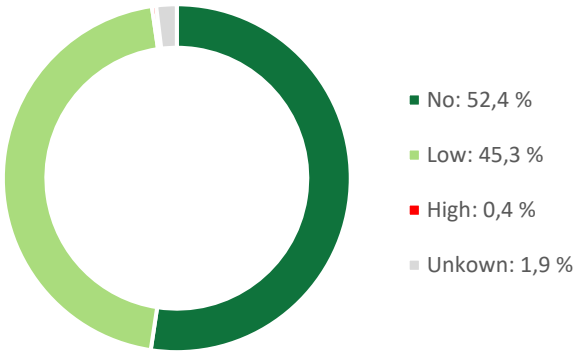
Company:	**TARKETT**
Product specifications	Essence Gluedown 30, Essence Gluedown 55, iD Inspiration 30, iD Inspiration 55, iD Inspiration 70HT, iD Mixonomi
Issue date:	11. October 2024
Expiration date:	10. October 2026
Evaluation and declaration threshold:	At least 100 ppm of the final product
After-use 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:	40595
MHS Version:	3.0

Chemicals Risk Assessment: Concern level

Rating for the use phase



Overall rating



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.
- overall 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.

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FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING		GS-LT GS-BM[a]	REACH
				Use phase	Overall		
PVC	**Polyvinylchloride**	9002-86-2	< 60.4%			LT-P1	✓
	Acetic acid ethenyl ester, polymer with chloroethene	9003-22-9	< 0.7%			LT-UNK	✓
	PVC polymerization additives[b]	*Proprietary[c]*	< 0.6%			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. *The small amount of involved vinyl chloride copolymer is associated with typically higher residual vinyl chloride amounts in resin products than in PVC itself. The involvement of vinyl chloride in other applications than PVC is not covered by the Charter for a responsible of PVC and chlorine management, despite the fact that a maximum content of this monomer in concerned LVT Gluedown product specifications is well below 1 ppm.* *Nanomaterials: No.*						
Fillers	**Calcium carbonate**	**471-34-1**	< 51%			LT-UNK	✓
	Dolomite	**16389-88-1**				LT-UNK	✓
	Crystalline silica - Quartz type[b]	*14808-60-7*				LT-1	✓
	Fillers consist of pulverized calcium carbonate of virgin origin with particles with a mean size of 2.5 µm. 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: Marginally likely*						
Plasticizers	**1,2-Cyclohexanedicarboxylic acid, diisononyl ester**	**166412-78-8**	< 12.4%			LT-UNK	✓
	1,2-Cyclohexanedicarboxylic acid, 1-methyl, 2-iisononyl ester	*Not available*					
	Bis(2-ethylhexyl) adipate	**103-23-1**				LT-P1	✓
	Dibutyl terephthalate	**1962-75-0**				None	✓
	Alternative to phthalate plasticizers partially approved for food contact application with high migration limit reflecting a much better safety profile. 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. DBT is an equivocal sensitizer. No concern with synthesis impurities MINCH present at a level slightly above the declaration level. *Nanomaterials: No*						
Heat stabilizers	**Soybean oil, epoxidized**	**8013-07-8**	< 2.4%			LT-P1	✓
	Zinc distearate	**557-05-1**				LT-P1	✓
	1,3-diphenylpropane-1,3-dione	**120-46-7**				LT-UNK	✓
	Triisodecyl phosphite	**25448-25-3**				LT-P1	✓
	Other components of a calcium/zinc heat stabilizer components	**Proprietary**				LT-P1	✓
						LT-UNK	✓
						LT-UNK	✓
	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 and of no toxicological concern. *Nanomaterials: No*						
Reinforcement	**Glass veil**	**65997-17-3**				LT-UNK	✓
	Binder	**Proprietary**				LT-UNK	✓
	A glass fibre veil enhances the dimension stability of LVT Gluedown products. It is encapsulated in the flooring matrix. The glass fibre based veil consists of glass fibres with a diameter exceeding 13 µm and a length of 12 mm and a chemically defined binder. No concern seen in the use phase and recycling processes. *Nanomaterials: No*						

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FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING		GS-LT GS-BM[(a)]	REACH
				Use phase	Overall		
Coloration agents	**Titanium Dioxide**	**13463-67-7**	< 1.6%			LT-1	✓
	The 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 LVT Gluedown. 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. *Other involved pigments are each below the declaration limit of 100 ppm.* *Nanomaterials: No*						
Other additives, processing aids and impurities	**Vinyl acetate ethylene, copolymer**	**24937-78-8**	< 4.8%			LT-UNK	✓
	Fatty acids, C16-18	**67701-03-5**				LT-UNK	✓
	Propane-1,2-diol	**57-55-6**				LT-P1	✓
	Aluminium hydroxide	**21645-51-2**				BM2	✓
	Aluminium oxide	**90669-62-8**				None	✓
	Other additives and processing aids	**Proprietary**				LT-UNK	✓
						LT-UNK	✓
						LT-P1	✓
						BM1	✓
						LT-P1	✓
						LT-UNK	✓
						N.I.	-
	Additives and formulation auxiliaries that have a function in the product or had a function to produce raw materials. At most 1% of the total product composition is not defined in this functional group. For identified components, no significant hazards and no risk expectable. *Nanomaterials: No*						
Surface Treatment	**2-Propenoic acid, 2-hydroxyethyl ester, reaction products with 5-isocyanato-1-(isocyanatomethyl)-1,3,3-trimethylcyclohexane and polyethylene-polypropylene glycol ether with trimethylolpropane (3:1) acrylate**	**187348-14-7**	< 1.2%			None	✓
	Oxybis(methyl-2,1-ethanediyl) diacrylate	**57472-68-1**				LT-P1	✓
	Hexamethylene diacrylate	**13048-33-4**				LT-P1	✓
	(octahydro-4,7-methano-1H-indenediyl)bis(methylene) diacrylate	**42594-17-2**				LT-P1	✓
	Polynoxylin	**9011-05-6**				LT-P1	✓
	Paraffin waxes and Hydrocarbon waxes	**9083-41-4**				LT-UNK	✓
	Paraffin waxes (petroleum), hydrotreated	**64742-51-4**				LT-P1	✓
	Poly(oxy-1,4-butanediyl), .alpha.-[(4-benzoylphenoxy)acetyl]-.omega.-[[2-(4-benzoylphenoxy)acetyl]oxy]-	**515136-48-8**				LT-P1	✓
	Pentaerythritol tetrakis(3-(3,5-di-tert-butyl-4-hydroxyphenyl)propionate)	**6683-19-8**				LT-UNK	✓
	Tris(2,4-ditert-butylphenyl) phosphite	**31570-04-4**				LT-UNK	✓
	Silicon dioxide	**7631-86-9**				BM1	✓
	Other precursors of the surface treatment	**Proprietary**				None	✓
						LT-UNK	✓
						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. Most of 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. While recycling within the ReStart® process, surface treatment lose their function and contribute as a filler without detrimental impacts to the safety properties of flooring products of the next generation. The red labelled chemical involves Bisphenol-A, a persistent endocrine disruptor, in its production. *Nanomaterials: Not verified*						

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THEREOF			
Content sourced from abundant minerals		40 - 55%	Calcium carbonate and the chlorine of PVC originate from abundant mineral resource.
Recycled content	- Internal post-industrial source (Reprocessed own production output)	40 - 55%	Post-industrial recycled content originating from the production of LVT Gluedown is involved in its production.
	- Post-installation / Pre-use source	-	
	- Post-use source	-	
Biologically renewable content	- Animal	-	No additive with an animal origin is identifiable. Soybean oil, epoxidized and minor other additive have both an animal or a vegetal origin.
	- Vegetal	< 0.8%	

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