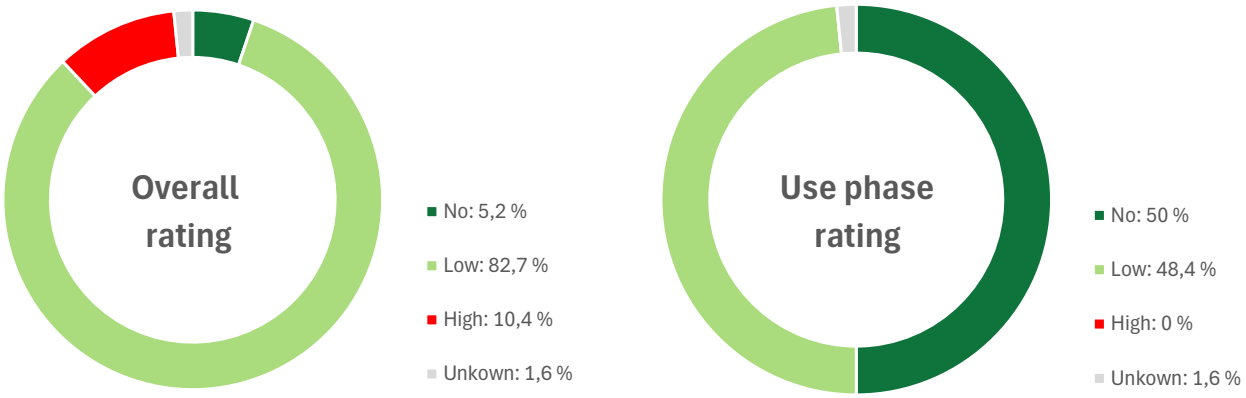
PVC - iQ RANGE BIOATTRIBUTED - 2025

Company	**TARKETT**
Product specifications	**iQ Granit bio, iQ Granit Acoustic bio, iQ surface bio, iQ eminent bio**
Issue date:	**08. Aug 25**
Expiration date:	**07. Aug 27**
Declaration and evaluation threshold:	At least 100 ppm of the final product
After-use scenario:	ReStart® recycling and take-back programme(a)
EPEA Registry No:	45598
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.
* 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,
  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	CHEMICALS (Maximally present at ≥ 0,01%)	CAS	CONTENT (average)	EPEA RATING		GS-LT GS-BM[(c)]	REACH
				USE PHASE	OVERALL		
PVC	Polyvinyl chloride	9002-86-2	≥ 48,17%			LT-P1	✓
	Proprietary	Proprietary	≤0,67%			N.I.	-
	Transitional use of PVC is tolerated in durable applications designed with good materials and a collection and recycling program in place[(b)]. Vinyl chloride content is below 1 ppm in purchased products. Tarkett proposes to take back your installation residues and plans to propose to take back your products after use, thanks to the ReStart® program[(a)]. 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. **Check Tarkett national websites for Restart® program availability.** Nanomaterials: No						
Fillers	Calcium carbonate	471-34-1	27,83%			LT-UNK	✓
	Quartz	14808-60-7				LT-1	✓
	Other fillers	Proprietary				LT-UNK	✓
						LT-UNK	✓
						None	✓
						LT-1	✓
	Fillers consist of pulverized stones and synthetic mineral fillers with mean particle sizes varying between 2 and 120 µm. Different levels of concerns are related to quartz, a natural component of these stones. Especially the production of a raw material consisting of particles with a mean size of 2 µm is a matter of concern during its production and its handling during the flooring production. No concerns in the final product because particles are embedded in the polymer matrix. Nanomaterials: No						
Plasticizers	1,2-Cyclohexanedicarbo-xylic acid, diisononyl ester (DINCH)	166412-78-8	16,20%			LT-UNK	✓
	1,2-Cyclohexanedicarboxylic acid, 1-methyl, 2-iisononyl ester (MINCH)	Not available				N.I.	✓
	Reaction mass of: ethylenebis (oxyethylene) dibenzoate and oxydiethylene dibenzoate and oxydipropyl dibenzoate (Benzoate)	Not available				N.I.	✓
	Dioctyl adipate (DOA)	123-79-5				LT-P1	✓
	DINCH, DOA and Benzoate plasticizers are alternatives to phthalate plasticizers approved for food contact applications with high migration limit reflecting a much better safety profile. With DINCH no toxicity is identifiable, especially no mutagenicity, carcinogenicity or reproductive toxicity observed in animal tests. No concern with the synthesis impurity MINCH irrespective of its amount being < 0.1% in the total composition. Nanomaterials: No						

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Heat stabilizers	Soybean oil, epoxidized	8013-07-8	4,53%			LT-P1	✓
	Other components of a Calcium/zinc-based PVC heat stabilizing system.	Proprietary				LT-P1	✓
						LT-UNK	✓
						BM3	✓
						LT-UNK	✓
						LT-P1	✓
						LT-P1	✓
						LT-P1	✓
						LT-P1	✓
	ESBO is a scavenger of hydrochloric acid that may be formed during the flooring use period. It has a plasticizing effect in addition. Zinc and calcium are essential elements for life. The migration potential of the different components of the heat stabilization system is unknown but expected low. No concern in the finished product. Nanomaterials: No						
Coloration agents	Titanium dioxide	13463-67-7	1,24%			LT-1	✓
	Carbon black	1333-86-4				BM1	✓
	C.I. Pigment Green 7	1328-53-6				LT-UNK	✓
	C.I. Pigment Yellow 95	5280-80-8				LT-P1	✓
	C.I. Pigment Blue 15	147-14-8				LT-UNK	✓
	Potential health issue related to dust inhalation during mining/production of titanium dioxide. No concern in the finished product. Copper containing pigments are not recommended in the context of PVC because of the catalytic activity of copper for the formation of dioxins in case of fire. Chlorinated pigments are not recommended for reasons explained in "EPEA's position on PVC and chlorine management"[(a)]. They are labelled red for these reasons. Nanomaterials: Not verified, yet for other pigments than titanium dioxide						
Additives, processing aids, impurities	Aluminium orthophosphate	7784-30-7	1,06%			LT-P1	✓
	Fumes, silica	69012-64-2				LT-P1	✓
	Diiron oxide (Fe2O3)	1309-37-1				BM1	✓
	Aluminium hydroxide	21645-51-2				BM2	✓
	Other additives, processing aids or impurities	Proprietary				BM3	✓
						LT-P1	✓
						LT-UNK	✓
						LT-UNK	✓
						BM2	✓
						N.I.	-
	Chemicals in this section consist mostly of formulation auxiliaries for coloration agents and the undefined part of the production input that flows into the products' composition. Undefined chemicals in this section amount to 0.7% of the total product. Nanomaterials: Not verified						

Surface treatment	Precursors of a polyurethane / acrylic surface treatment	Proprietary	0,28%			LT-UNK	✓
						LT-UNK	✓
						LT-P1	✓
						N.I.	✓
	The surface treatment is acting as a protection in two ways: it prevents volatiles organic compounds residually contained in the product to migrate out of it[(e)] and it protects the flooring product from abrasion with excellent indoor air quality properties as a result. Listed chemicals are a mixture of precursors for the production of a complex polymeric structure via curing with photoinitiators. The main component is not exactly defined by CAS number but approximately as aliphatic urethane acrylic non-ionic copolymer that is free of tin organic compounds. Nanomaterials: No						

RESOURCE ORIGIN			
Content sourced from abundant minerals		52,11%	Fillers and the chlorine part of PVC originate from abundant mineral resources.
Recycled content	- Internal post-industrial	24,50%	The iQ Bioattributed range is produced with recycled content with the same chemical composition as the primary content.
	- Post-installation	1,00%	
	- Post-use source	-	
Biologically renewable content	- Animal	-	Epoxidized soybean oil and a minor processing aid are produced with plant oils.
	- Vegetal	4,36%	

EPEA's rating methodology [(d)] 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. EPEA believes the data forth herein are accurate as of the date hereof. EPEA makes no warranty with respect thereto and expressly denies all liability for reliance thereon. Such data are offered solely for your consideration, investigation, and verification.

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Legend:

EPEA RATINGS	REACH compliance	GS-LT / GS- BM[(a)]
No concern	✓: 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
low concern		
High concern. Task for material optimization		
Risk cannot be verified. Task for knowledge development		

(a) ReStart® recycling and take-back programme(a)
https://professionals.tarkett.com/en_EU/node/restart-recycling-take-back-programme-9721

(b) Charter for a responsible use of PVC and chlorine management
https://www.epea.com/en/news/pvc-chlorine-management

(c) GreenScreen List Translator Score and GreenScreen Benchmark Score according to 3E Exchange
https://exchange.3eco.com/Substances/Search

(d) EPEA MHS V3.0 Development Guidance
https://epea.com/fileadmin/user_upload/2.0_Leistungen/MHS_Guidance_document_V3.0_EPEA_15.09.2023.pdf

(e) VOC regulation compliance
- ✓ French VOC regulations DEVL 1101903D and DEVL1104875A modified 2012 (DEVL 1133129A)
- ✓ French CMR components (2009) DEVP0908633A and DEVP0910064A (April and May 2009)
- ✓ Belgian VOC regulation C-2014/24239 (2014)
- ✓ BREEAM Exemplary Level v6.0 (2021)
- ✓ BREEAM NOR v6.1 (2023)
- ✓ Italian CAM Edilizia (Nr. 183 - 2022)
- ✓ German AgBB (2021)
- ✓ German DE-UZ 120 (Blue Angel)
- ✓ EU-Taxonomy
- ✓ Lead v4.1 Beta (ouside U.S.)
- ✓ Formaldehyde emission class (EN 6516 (2020) EN 14041:2018
- ✓ Indoor Air Comfort Gold v9.0 (2023)

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