Master Class: Chemical Footprint Approaches

26th June 2025
13:00-13:45 (Uruguay time, UYT), Hybrid

Sign up to stay informed

https://forms.office.com/e/eYSC9j12vm

Agenda

Time	Program
13:00 – 13:05	Welcome and Introduction Moderator: Llorenç Milà i Canals, UNEP
13:05 – 13:30	Overview of Chemical Footprint approaches Speakers: Angela Pinilla, Clean Production Action (in person); Peter Fantke, substitute ApS | Goethe University Frankfurt (in person); Anne-Laure Brison, WBCSD (online); Monica Becker, C2C (online); Myriam Tryjefaczka, Tarkett (in person)
13:30 – 13:40	Audience Interaction + Q&A Moderator: UNEP
13:40 – 13:45	Closing remarks, Invitation to contribute Speaker: Llorenç Milà i Canals, UNEP

Active poll

17

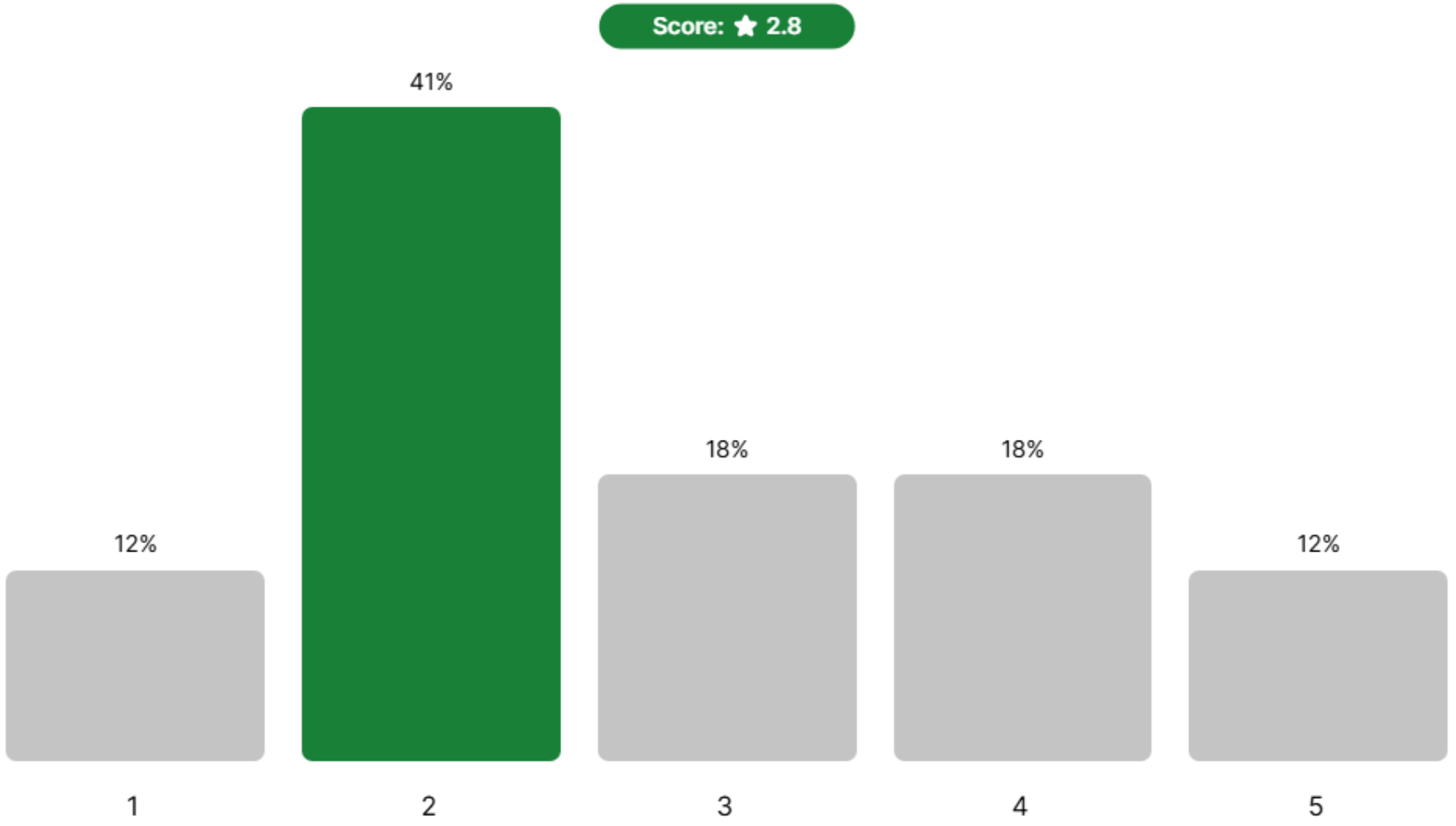
Join at

slido.com

#1736 575

How familiar are you with chemical footprint approaches?

1 - Not at all 5 - Very familiar



Overview of Chemical Footprint approaches

Chemical Footprint Project

SOLUTIONS FOR A SAFER & HEALTHIER TOMORROW

Clean Production Action

BizNGO

BIZNGO FOR
SAFER CHEMICALS &
SUSTAINABLE MATERIALS

IEHN

INVESTOR
ENVIRONMENTAL
HEALTH NETWORK

GREENSCREEN FOR SAFER CHEMICALS

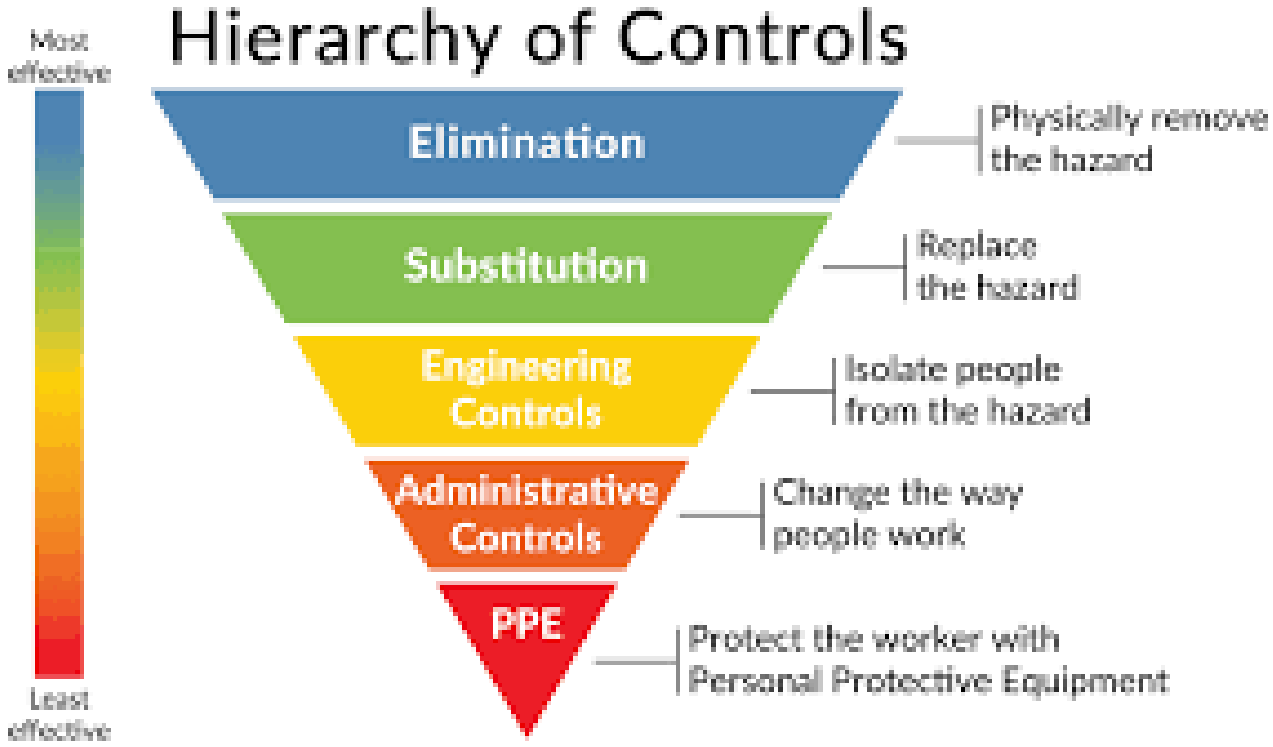
GREENSCREEN
FOR SAFER
CHEMICALS

cfp

CHEMICAL
FOOTPRINT
PROJECT

Principles of CFP's Chemical Footprint Approach

- Inherent hazards of chemicals
- Preventive / precautionary approach
- Practical, feasible, measurable
- Quantitative metric



Clean Production Action

Environmental Science & Technology

pubs.acs.org/est

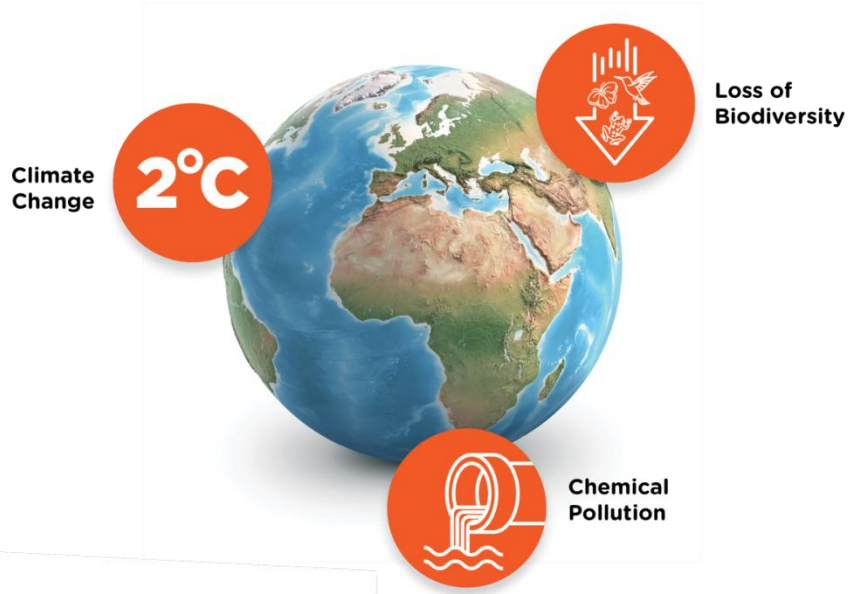
Policy Analysis

Outside the Safe Operating Space of the Planetary Boundary for Novel Entities

Linn Persson,* Bethanie M. Carney Almroth, Christopher D. Collins, Sarah Cornell, Cynthia A. de Wit,* Miriam L. Diamond, Peter Fantke, Martin Hassellöv, Matthew MacLeod, Morten W. Ryberg, Peter Søgaard Jørgensen, Patricia Villarrubia-Gómez, Zhanyun Wang, and Michael Zwicky Hauschild

Cite This: *Environ. Sci. Technol.* 2022, 56, 1510–1521

Read Online



Environmental Science & Technology

pubs.acs.org/est

Perspective

Outside the Safe Operating Space of a New Planetary Boundary for Per- and Polyfluoroalkyl Substances (PFAS)

Ian T. Cousins,* Jana H. Johansson, Matthew E. Salter, Bo Sha, and Martin Scheringer

Cite This: *Environ. Sci. Technol.* 2022, 56, 11172–11179

Read Online

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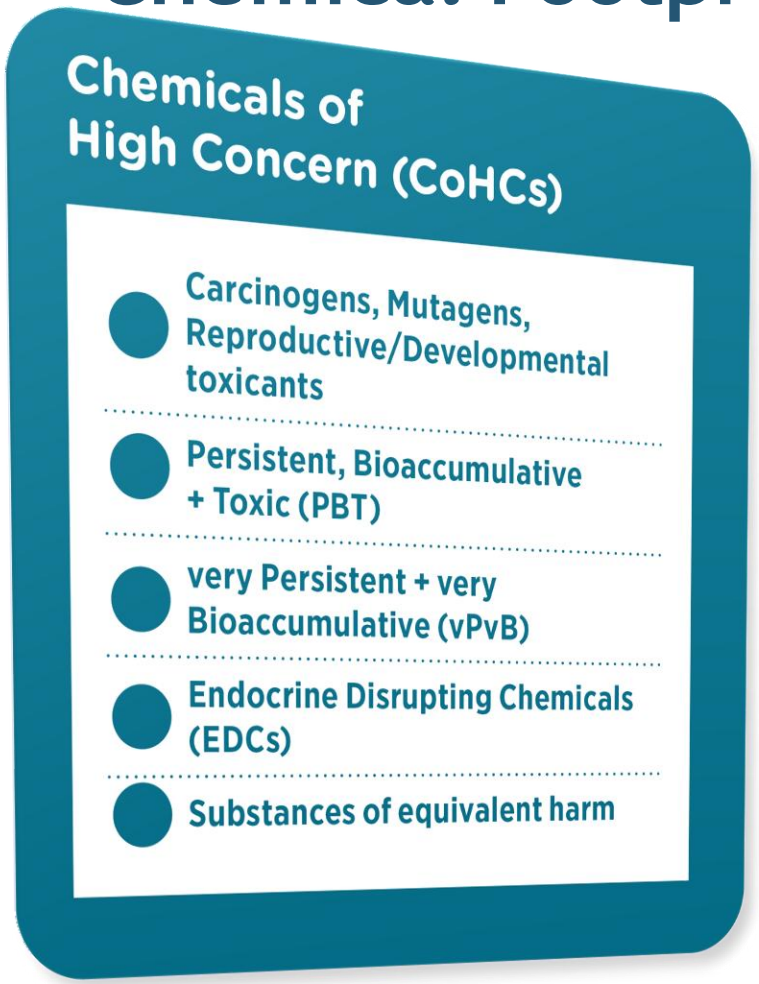
Chemical Footprint of an Organization



Chemical footprint: total mass of chemicals of high concern (CoHCs) used by an: organization, event, service, building, or product.

* It can also be measured by count

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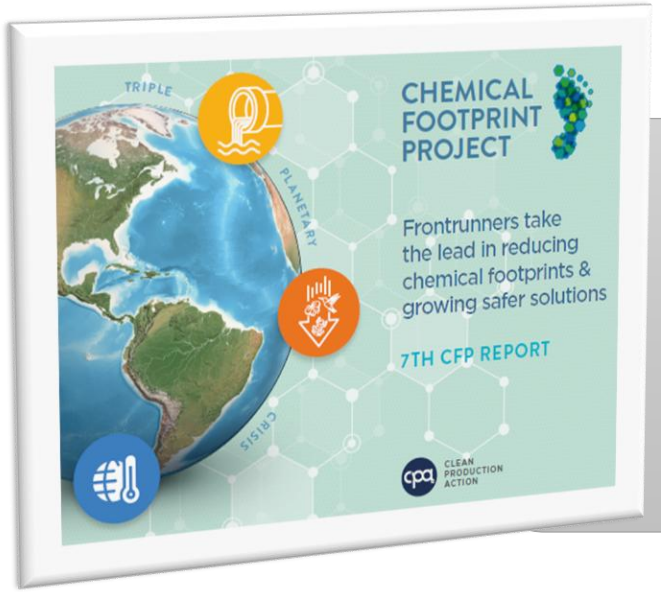
Essential Steps to Proactive Chemicals Safety Leadership (beyond regulatory compliance)

Clean Production Action

cfp

Measuring Progress

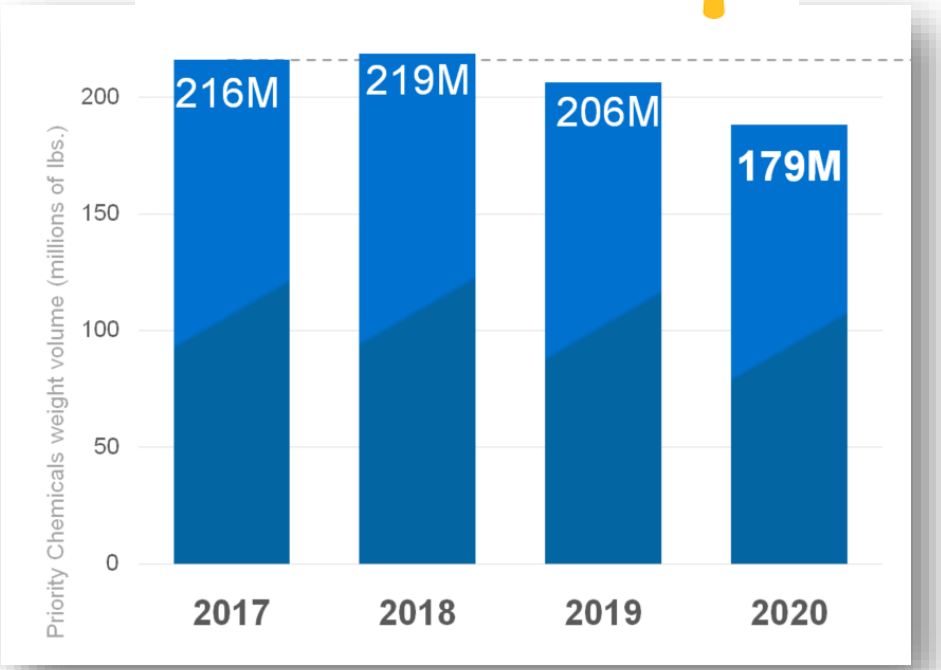
6th CFP Survey: companies reported
net chemical footprint reductions of
83 million pounds / 38 million kilograms



7th CFP Survey: companies reported
net **chemical footprint reductions of**
133 million pounds / 60 million kilograms —
equivalent to 226 Airbus A380s
(the world's largest passenger aircraft)

Chemical Footprint Commitments

Walmart



Walmart set a chemical footprint reduction goal by weight, and tracked and publicly reported progress to reducing its chemical footprint

reckitt

Ambition

65% chemical footprint reduction by 2030

The Clorox Company

Chemical Footprint Project

In support of our public commitment to reduce the chemical footprint of our cleaning products, in 2021 we began participating in the Chemical Footprint Project to evaluate both our retail and professional products cleaning product portfolio. The Chemical Footprint Project is an initiative that helps companies measure and disclose data related to the chemistries used in their products. We are using their benchmarking tool to assess and manage our retail and professional cleaning products' chemical footprints, while evaluating expansion to other product categories. We have set a goal to improve the Chemical Footprint Project score for our domestic cleaning portfolio 50% by 2030 with an interim target of 35% by 2025.

7th CFP REPORT

SIX KEY TAKEAWAYS

THE COMBINATION OF EMERGING TRENDS IN THE CHEMICAL FOOTPRINT APPROACH WITH DATA RESULTS FROM THE CFP 2023 SURVEY REVEALED SIX KEY TAKEAWAYS IN CHEMICALS MANAGEMENT LEADERSHIP.

1. USE THE CHEMICAL FOOTPRINT APPROACH TO ADDRESS CHEMICAL POLLUTION.
2. KNOW YOUR CHEMICAL FOOTPRINT.
3. BE A FRONTRUNNER.
4. REDUCE YOUR CHEMICAL FOOTPRINT.
5. GROW SAFER SOLUTIONS.
6. SHARE YOUR JOURNEY.

Clean Production Action


BEAUTYCOUNTER
CommonSpirit
THE CLOROX COMPANY
vizient
Walmart
reckitt
P&G
BD
TARGET
Hasbro
COLGATE-PALMOLIVE
ECOLAB
MILLERKNOLL
MillerKnoll
DOLLAR TREE
CAMPAIGN FOR
Healthier
Solutions
WHOLE FOODS MARKET
Mind the Store
NATUREPEDIC
RITE AID
GOJO
Grove
COLLABORATIVE
cfp

CIS Center

Cradle-to-Cradle

INTRODUCING

Cradle to Cradle Certified®

Monica Becker
Sr. Director, Strategy & Development

Products that are **good for you and good for the planet**

cradle to cradle products innovation INSTITUTE

THE CERTIFICATION

Cradle to Cradle Certified® is a multi-attribute standard that **verifies** the performance of products across **five categories of sustainability.**

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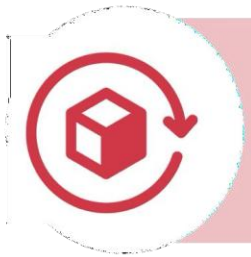
Material Health

Ensuring materials are safe for humans and the environment.

Clean Air & Climate Protection

Enabling a circular economy through product and process design



Product Circularity

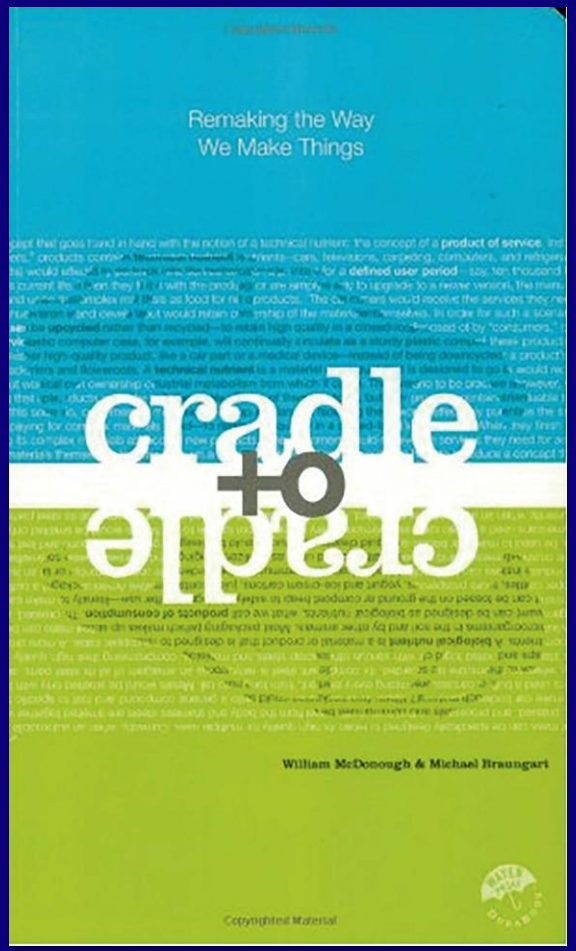
Generating clean energy and protecting the environment.

Water & Soil Stewardship

Safeguarding air, water and soil resources.

Social Fairness

Embracing safe, fair and equitable labor practices that advance human rights.



First edition, 2002 | William McDonough | Michael Braungart

CRADLE TO CRADLE DESIGN PRINCIPLES

A design framework characterized by three principles derived from nature:

1. Everything is a resource for something else
2. Use clean and renewable energy
3. Celebrate diversity

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Three certifications rooted in the Cradle to Cradle Design

Cradle to Cradle Certified® is the leading multi-attribute standard used globally across industries by designers, brands and manufacturers for designing and making products that enable a healthy, circular and fair world.

Since it's inception in 2005, Cradle to Cradle Certified has been helping companies to innovate and optimize materials and products according to the world's most advanced science-based measures.

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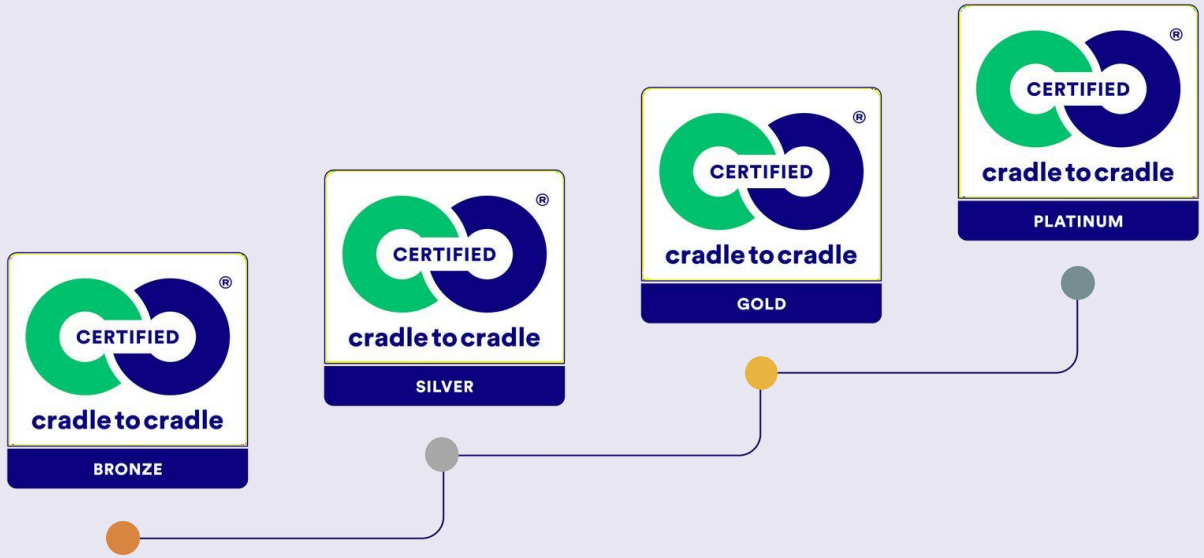
A measurable pathway to innovation and optimization



- **Drives continuous and measurable improvement** with ascending achievement levels based on setting and achieving optimization goals.
- **Drives innovation** and helps companies stay ahead of regulations and reporting requirements.

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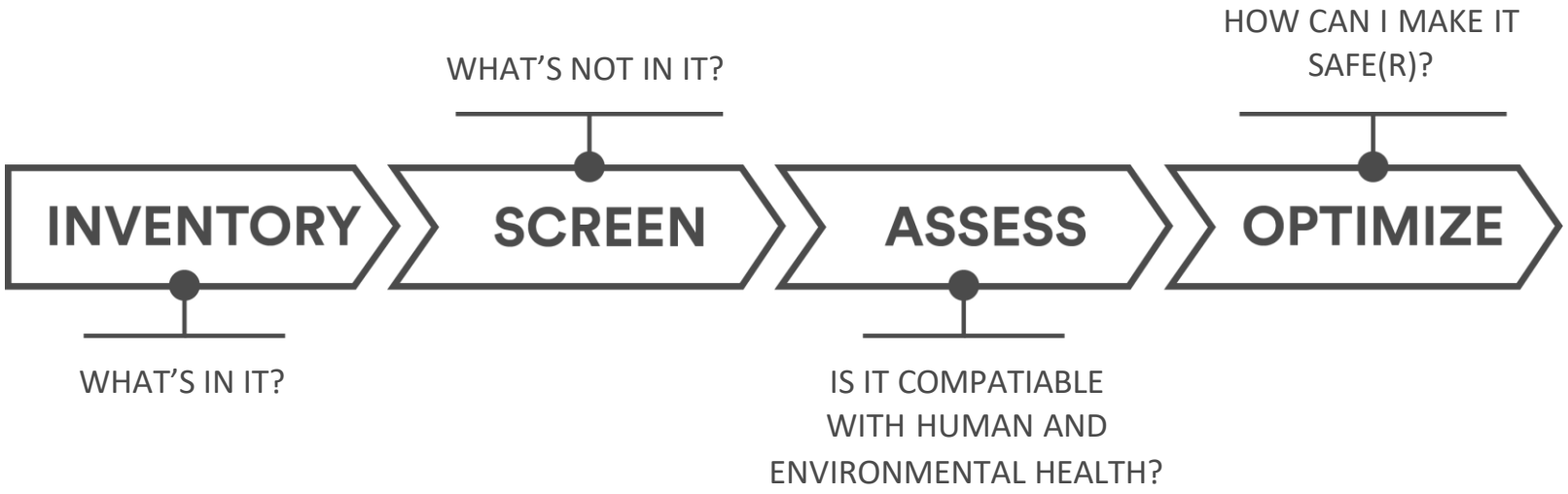
material health

Chemicals and materials used in the product are selected to prioritize the protection of human health and the environment, generating a positive impact on the quality of materials available for future use and cycling.



SCREEN: C2C CERTIFIED CHEMICAL RESTRICTIONS

BRONZE

Section 4.1

- REACH Annex XIV “Authorisation List”
- REACH Annex XVII “Dangerous Substances”
- Regulation (EU) 2019/1021 Persistent Organic Pollutants (POPs), Annexes I-IV

Section 4.2

- Per- and polyfluoroalkyl substances (PFASs)
- Halogenated flame retardants (HFRs)
- Organophosphate ester flame retardants (OPFRs)
- Highly halogenated materials (e.g. polyvinyl chloride (PVC), neoprene, and highly halogenated dyes and colorants, among others)

Electrical and electronic equipment

- Directive 2011/65/EU Restriction of Hazardous Substances (RoHS)

Toy products designed for use by children under 14 years of age

- Directive 2009/48/EC (Toy Safety)

Cosmetic and personal care products

- Regulation (EC) No 1223/2009 (Cosmetics Regulation), Annexes II, III, and V

SILVER (BRONZE +)

Section 4.2

- All organohalogens limited to 1% in homogeneous materials.

Section 4.6

- Substances that are classified as CMR in the EU CLP Annex VI regulation
- Substances that are listed as CMR, PBT, or vPvB on the REACH SVHC list
- Other substances that are listed on the REACH SVHC list and are x-assessed in the product following the C2C Certified Material Health Assessment Methodology (see Section 4.4)*.

GOLD & PLATINUM (SILVER +)

Section 4.2

- All organohalogens limited to 100 ppm in homogeneous materials.

Section 4.6

- X/x assessed materials and chemicals in the product, and at the Platinum level, in process chemistry*
- Only A/a, B/b, and C/c assessed materials and chemicals may be used in the product

*The C2C Certified Material Health Assessment Methodology evaluates each chemical constituent of a material for 20 human and environmental health hazard endpoints to assign hazard ratings, which can be Green, Yellow, Red, Purple, or Grey. Chemicals that retain endpoints with 'RED' or 'PURPLE' risk flags following an exposure assessment are considered hazardous and assessed as 'x’.

ASSESS: HAZARD ENDPOINTS

HUMAN HEALTH	
• Carcinogenicity	• Inhalation Toxicity
• Mutagenicity	• Neurotoxicity
• Reproductive & Developmental Toxicity	• Skin, Eye, and Respiratory Corrosion/Irritation
• Endocrine Disruption	• Sensitization of Skin and Airways
• Oral Toxicity	• Other (Human Health)
• Dermal Toxicity	

ENVIRONMENTAL HEALTH	
• Aquatic Toxicity - Fish	• Persistence
• Aquatic Toxicity - Daphnia	• Bioaccumulation
• Aquatic Toxicity - Algae	• Combined Persistence and Bioaccumulation Hazard Flag
• Terrestrial Toxicity	• Climatic Relevance
• Other (Environmental Health)	

CHEMICAL CLASS	
• Organohalogens	• Toxic Metals

ASSESS: EXAMPLES OF HAZARD RATING CRITERIA

Endpoint	Description	Green	Yellow	Red	Grey
Carcinogenicity	Potential to cause cancer.	• Not classified as GHS category 1A, 1B, or 2. • **Not a known, presumed or suspected carcinogen.** • Negative long-term cancer studies. **Listed as:** • ACGIH - TLV A5 • IARC Group 4	• Not classified as GHS category 1A, 1B, or 2. • **Limited, marginal, equivocal or conflicting evidence of carcinogenicity.** **Listed as:** • MAK III - Category 3A, 4, 5	• Classified as GHS category 1A, 1B, or 2. • **Known, presumed or suspected carcinogen.** **Listed as:** • MAK III - Category 1, 2, 3B • IARC - Group 1, 2A, 2B • ACGIH - TLV A1, A2, A3 • GHS - Category 1A, 1B, 2 • H350: May cause cancer • H351: Suspected of causing cancer	• No data available for classification. **Listed as:** • IARC Group 3 • ACGIH - TLV A4
Endocrine Disruption	Potential to negatively affect hormone function and impact organism development.	• Not known or suspected of endocrine disruption: Adequate data indicate neither endocrine activity nor adverse health effects that are linked to endocrine activity. **or** • EU list category 3A	• Insufficient evidence of endocrine disruption: Data provide evidence of endocrine activity without evidence of linked adverse health effects.	• Sufficient evidence of endocrine disruption: Data indicate adverse health effects that are linked to endocrine activity. **or** • Chemical appears on Colborn or EU list (Cat. 1 & 2).	• No data available for classification. • EU list category 3B
Mutagenicity	Potential to alter DNA.	• Not classified as GHS Category 1A, 1B, or 2. Substance does not induce aberrations of chromosomes OR substance does not induce chromosome segregation errors in in vitro systems. **AND** • substance does not induce point mutations.	• Not classified as GHS Category 1A, 1B, or 2. Insufficient data. Substance does not induce point mutations. Data lacking on chromosome aberration and segregation.	• Classified as GHS Category 1A, 1B, or 2. **or** • Evidence of mutagenicity supported by positive results in vitro or in vivo (see rating criteria guidance) **or** • **Listed as:** • MAK IX 1, 2, 3A, 3B, • H340: May cause genetic defects • H341: Suspected of causing genetic defects	• No data available for classification.

ASSESS: SPECIALIZED ASSESSMENT METHODOLOGIES

- Colorants Assessment Methodology
- Biological Materials Assessment Methodology
- Geological Materials Assessment Methodology
- Polymer Assessment Methodology
- Recycled Content Assessment Methodology
- Externally Managed Component Assessment Methodology
- Mixture Hazard Assessment Methodology

ASSESS: RECYCLED CONTENT

Recycled Content Materials Assessment Methodology

1 OVERVIEW

1.1 Purpose and Content

This document describes the methodology used to assess recycled content materials for the purposes of Cradle to Cradle certification. Due to the often variable and unknown composition of these materials, analytical testing is required. Recycled content materials in products being assessed for Cradle to Cradle certification are therefore assessed following this customized methodology, rather than the general Material Health Assessment Methodology alone.

Cradle to Cradle Certified®

Material Health - Analytical Testing Requirements for Commonly Recycled Materials

Line ID	Restriction List from Cradle to Cradle Certified Products Standard Version 4.0 Restricted Substances List (RSL), and SVHC Candidate list	Group	Sub-Grouping	Chemical(s) Name	Acronym or Trade Name	CAS Number(s)	Maximum allowable concentration (ppm) - Bronze level per RSL	Restriction Notes (1) (For SVHC Candidates, reason for inclusion on the Candidate list
44	Core (All_Products)	Organohalogens	Chlorinated Compounds	1,2-Dichloroethane	EDC	107-06-02	1 000	
45	Core (All_Products)	Organohalogens	Chlorinated Compounds	Chloroethylene (Vinyl chloride monomer)	VCM	75-01-4	5*	*5 ppm for general, 1 ppm for food and medical applications; may not be used as propellant.
46	Core (All_Products)	Organohalogens	Chlorinated Compounds	Short-chain chlorinated paraffins	SCCPs	85535-84-8	1 500*	*Threshold applies to solid homogeneous materials. For liquid mixtures the restriction limit value is

MATERIAL HEALTH

ENABLES COMPANIES TO:

Screen - Go beyond chemical regulations

- Comply with and stay ahead of leading international chemical regulations.

Verified Inventory & Assess – Understand the chemistry of products

- Fully define the chemical composition of each material.
- Comprehensively assess the toxicological properties of each substance in the material/product context.

Optimize product and process chemistry without making regrettable substitutions

- Identify & eliminate chemicals of concern, while verifying that alternatives are compatible with human and environmental health.
- Develop an actionable strategy to address toxic emissions in the supply chain.

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WHAT WE ASSESS, OPTIMIZE, CERTIFY

MAJOR COMPANIES IN OUR PROGRAM, INCLUDING:

L'Oreal
Reckitt
Schleich
Ecolab
Shaw
Tarkett
Saint Gobain
Henkel
C&A
Werner & Mertz

AGC Glass
Ralph Lauren
Bang & Olufsen
G-Star
Dopper
Carnegie Fabrics
Schneider Electric
Interface
Bentley
Clariant

Arhend
Hilti
Milliken
Diversey/Solenis
Brabantia
Sherwin-Williams
CHT
PPG Industries
Mecho
Bonprix

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Cradle to Cradle Certified® is integrated with industry and global initiatives, including:

LEED

5 – 7 POINTS

WELLv2

1 – 5 POINTS

LIVING BUILDING CHALLENGE℠

MATERIALS PETAL

DGNB

MULTIPLE CATEGORIES

BREEAM®

(PENDING EOY 2025)

Gensler

PRODUCT SUSTAINABILITY STANDARD

Google

SUSTAINABILITY STANDARD

HOK

SUSTAINABILITY STANDARD

EPA

FEDERAL PURCHASING GUIDE

amazon

CLIMATE PLEDGE DRIENDLY

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Thank you!

Monica Becker
mbecker@c2ccertified.org

WWW.C2CCERTIFIED.ORG

USEtox / LCA

USEtox® – UNEP/SETAC model for human toxicity & ecotoxicity characterization

Peter Fantke, PhD
substitute ApS, CEO
Goethe University Frankfurt, Adjunct Professor
USEtox Team, Managing Director
peter@substitute.dk

USEtox – UNEP/SETAC Scientific Model

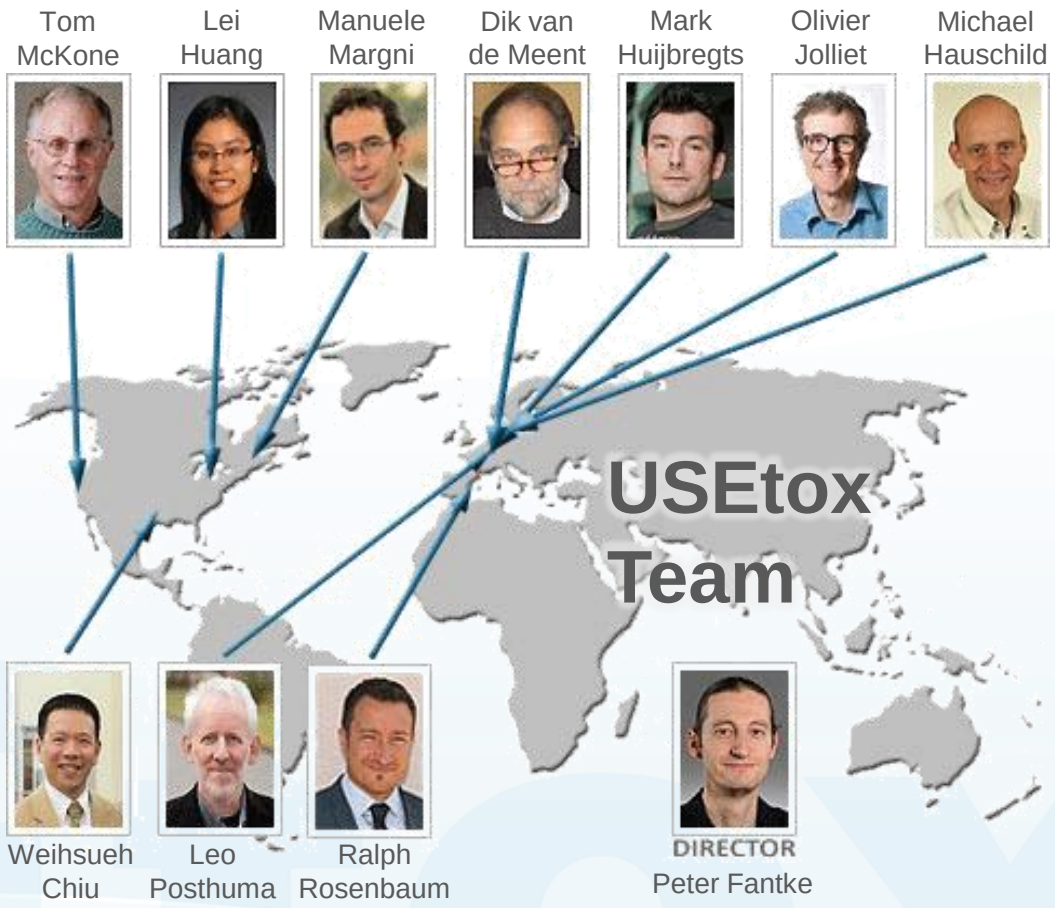
- ✓ Builds on broad model comparison
- ✓ **Human toxicity** & **ecotoxicity** impacts
- ✓ Life cycle **emissions** & chemicals **in products**
- ✓ Fully mass balanced, non-linear dose-response

--Used for--

- ✓ **Product life cycle assessment**
- ✓ **Chemical footprinting**
- ✓ **Exposure & risk screening**
- ✓ **Chemical substitution**
- ✓ **Risk prioritization**

--Not used for--

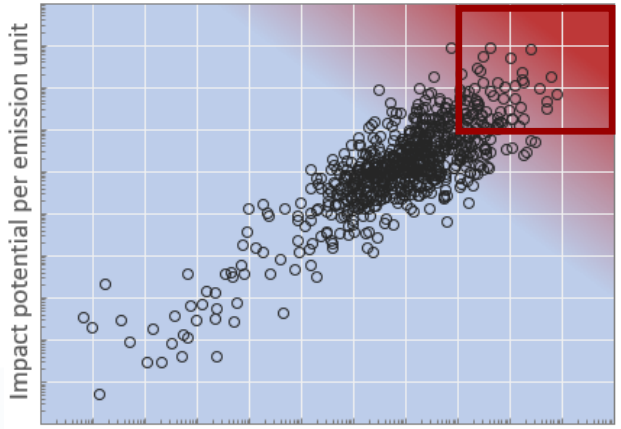
- ✓ **Hazard ranking**
- ✓ **Chemical use/emission analysis**



https://usetox.org

USEtox – Example Uses

- ✓ Sri Lanka paint & China toy industry: **Identifying chemicals of concern**
- ✓ Environment Canada: **Risk-based pollution reduction enforcement**
- ✓ Pew Charitable Trusts: **Health burden from chemicals in plastics**
- ✓ European Commission: **Product Environmental Footprint (LCA)**
- ✓ Bayer CropScience: **Global impacts from pesticide use**
- ✓ European Environment Agency: **Chemical footprinting**
- ✓ AstraZeneca: **Safe & sustainable-by-design (SSbD)**
- ✓ AgroFair: **External costs of banana production**
- ✓ Volvo Cars & Hempel: **Chemical substitution**
- ✓ U.S. EPA: **Exposure prioritization**



Compounds	Direct intake	Food/ oral contact	Direct dermal	Dermal contact	Indoor emissions	Passive indoor emissions	Pesticides w/ food residue model	Pesticides w/o food residue model	Outdoor releases
Benz[a]anthracene									
Tannic acid									
Phenoxyethanol									
Benzophenone									
Potassium Perfluorohexanesulfonate									
4-(1,1,3,3-Tetramethylbutyl)phenol									
Triphenyl phosphate									
Dinoseb									
Di-n-butylphtalate									
Di-n-octyl phthalate									
Diallyl phthalate									
Tributyl phosphate									
Imazalil									
Mirex									
Fentin hydroxide									

daily intake rate/oral equivalent dose classes

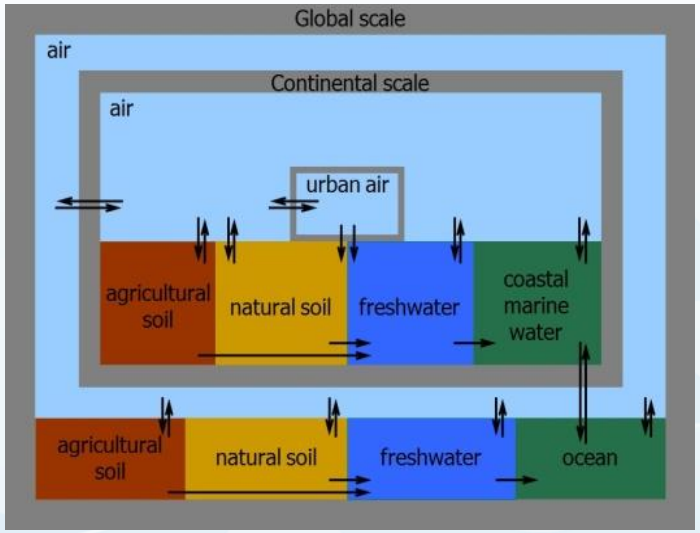
https://doi.org/10.1021/acs.est.5b00498

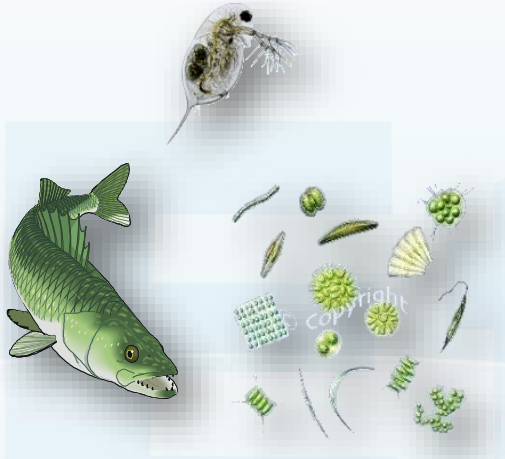
USEtox – Impact Pathway Framework

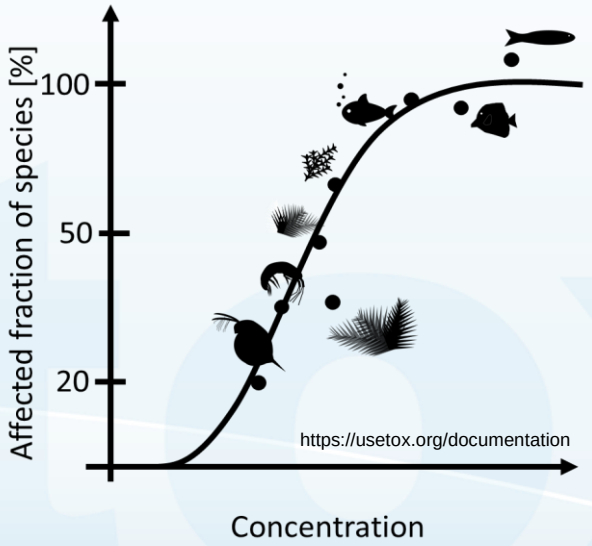
Emission → Environmental Fate → Exposure → Toxicity effects

Fate factor × Exposure factor × Effect factor

Emission × USEtox characterization factor = Environmental Impact







World Business Council for Sustainable Development (WBCSD)'s Portfolio Sustainability Assessment (PSA)

Chemical foot-printing with Portfolio Sustainability Assessment

OEWG –GFC - June 26, 2025

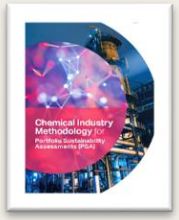
World Business Council for Sustainable Development

Anne-Laure Brison
Senior Manager,
Circular Chemicals

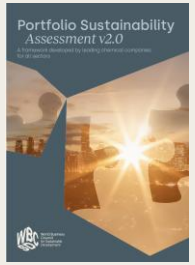
Portfolio Sustainability Assessment : Steering toward sustainable solutions

WBCSD Portfolio Sustainability Assessment (PSA) is …

- A **voluntary** framework *by and for the chemical industry*, published in 2018, revised in 2023, adopted by 30+ companies to **integrate sustainability into business decision** and **steer toward sustainable solutions.**



PSA v1.0



PSA v2.0

SCAN ME

PSA does ….

- Assess and identify sustainability **risks and opportunities** in product/service portfolio, according to **8 lenses**, **at product level**, from **cradle to cradle. No netting.**
  Includes :
  - **SC1 :** Chemical hazards and exposure,
  - **SC2** :Anticipated regulatory developments and global conventions;
- **Categorize** products according to **sustainability performance**

PSA characteristics as a chemical footprint approach

- **Use case: Inform business decisions** to **steer** toward more sustainable offering (ex: Sustainable strategy, innovation, performance management, risk mitigation, disclosure)
- **Metrics type :** Pressure, impact
- **Approach** : risk based, qualitative and quantitative.

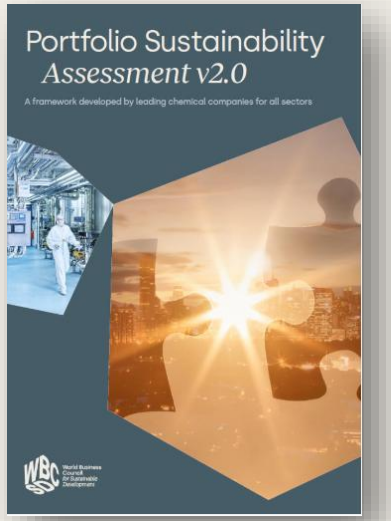
Inspired from lesson learnt from PSA, WBCSD is developing **a sector agnostic, standardized methodology for portfolio sustainability assessment and steering**

Contributors

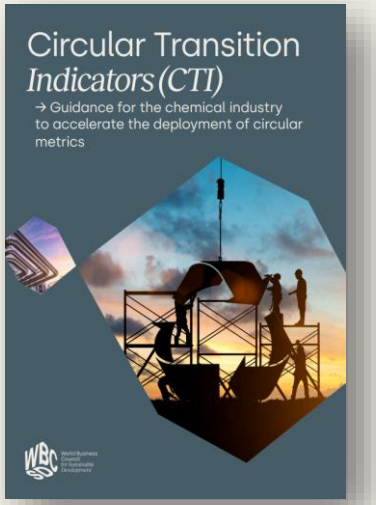
SUMITOMO CHEMICAL, DSM, Mitsubishi Chemical Holdings, ARKEMA, BASF, Chemours, Chevron Phillips, CLARIANT, covestro, DOW, EVONIK, Infineum, LANXESS, sabic, Sika, SOLVAY, EASTMAN, MERCK, AkzoNobel

ERM

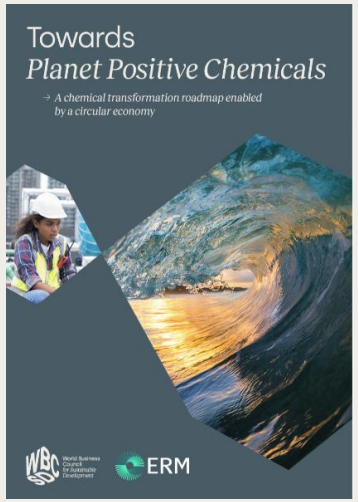
More information on WBCSD Chemical Circularity work in the following publications :



Portfolio Sustainability Assessment 2.0



CTI sector guidance: Chemical industry



Chemical Transformation Roadmap
Towards Planet -Positive Chemicals

SCAN ME

Thank *You*

For more info, contact:
brison@wbcsd.org

World Business Council *for Sustainable Development*

Tarkett's use of chemical footprinting approaches

For our future, every step matters.
So does every surface.
GFC-OEWDG Multi-stakeholders day
Punta del Este June 26th 2025

Tarkett

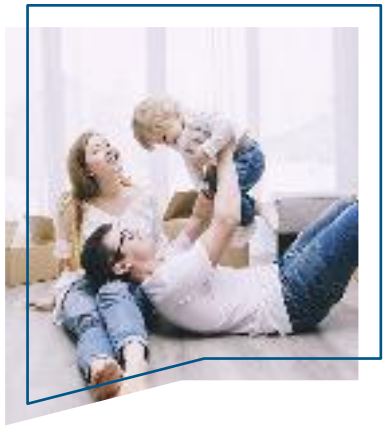
Our customers care for people and the planet

Workplace

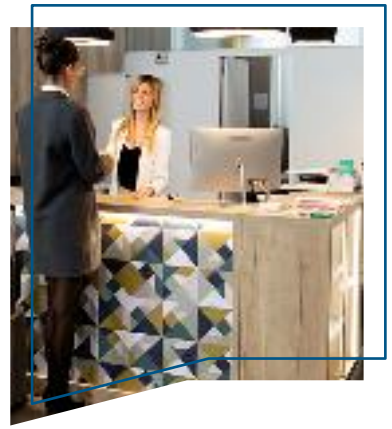
Health care

Education

Sport



Home



Hospitality

Tarkett

We offer them a wide portfolio of innovative solutions

Vinyl & Linoleum

Carpet

Wood & laminate

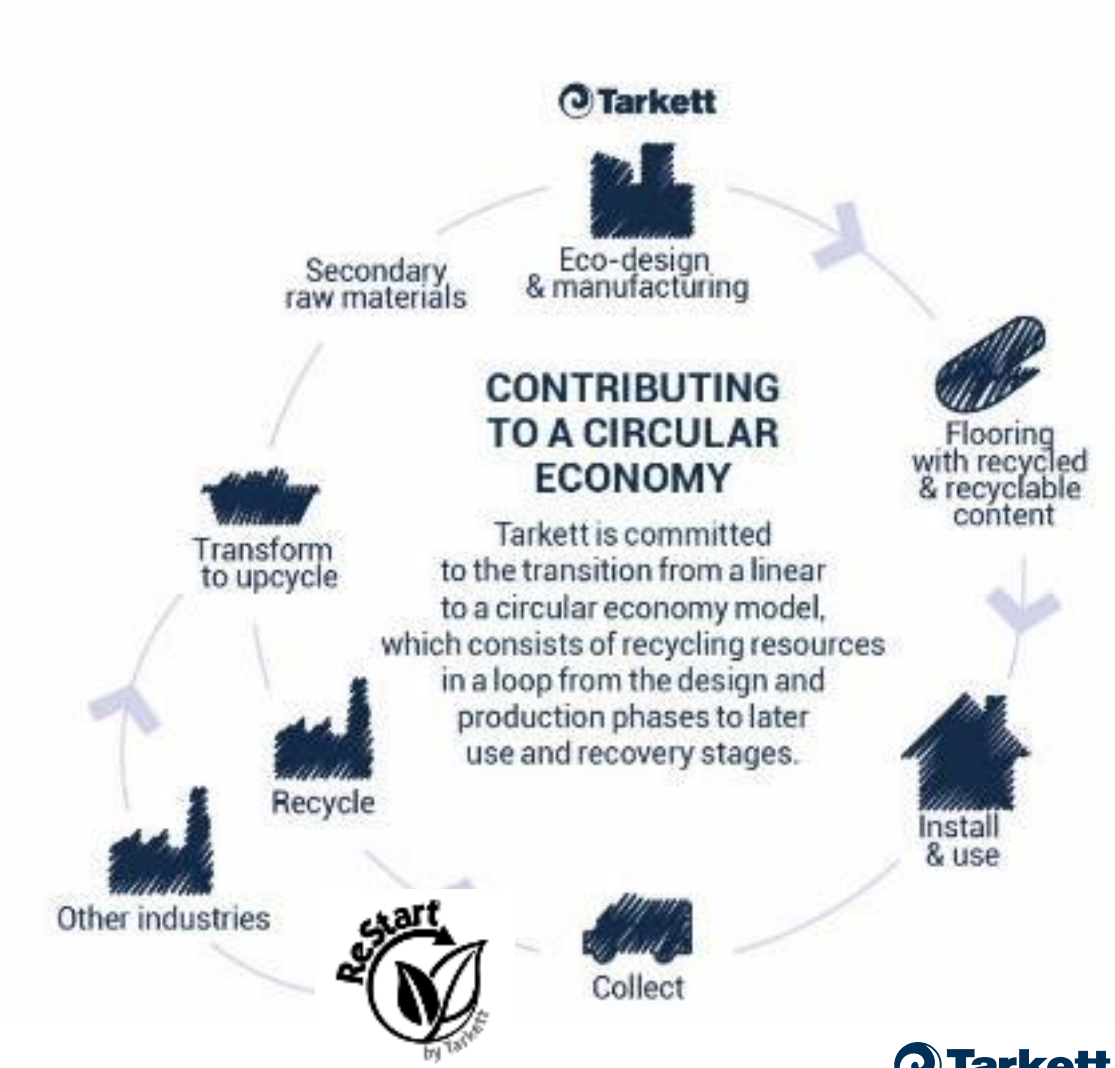
Accessories & Rubber

Indoor and outdoor sport surfaces

Tarkett

Circular economy is at the heart of Tarkett's business strategy

- **Founded in 1884,** marking over a century of innovation.
- **Close to 12,000 employees** across **46 countries,** driving progress worldwide.
- **€3.3 billion** in revenue, reflecting global leadership.
- **35 production sites** across **21 countries,** mapping a global footprint, with products sold in over **100 countries.**
- **24 R&D centers** leading innovation to transform our industry.
- **8 recycling centers** pioneering circularity.
- **10.4 years on average.** Employees stay with us for over a decade—testifying to their dedication and our shared values.



Tarkett

Ecodesigning for products' circularity

Keeping materials in cycles implies first sound chemicals' management and combined approach

TOOLS

- Ecodesigning products according to Cradle to Cradle prinicples
  - Chemicals assessments and systematic proactive substitution of problematic substances for health, environmental and circularity reasons
  - Recyclable products
  - Renewable energies and water quality and close loop management

- Developping own collection and recycling scheme of flooring at end of use through ReStart programme

- Addressing Climate change through GHG emissions reduction on Scopes 1, 2 and 3.
- Reducing products' environmental footprint on standard environmental indicators including chemicals' ecotoxicity supported by USETOX

Market wants transparent communication on chemicals risks and impacts in use phase and life cycle impact, especially GWP.

Tarkett radical transparency goes beyond existing standards and business practices

- **Material Health Statement**
- **discloses down to 0,01% all chemicals entering intoTarkett products formulations** (Beyond Reach requirements)
- **Risk assessment** of chemicals in production and use phase
- Readable ranking of chemicals provided connecting **C2C chemicals assessment standard, REACH compliance and GS-LT classification**
- Third party verified
- Based on **collaboration with suppliers** – In case of IP protection, Third party deals directly with our suppliers to ensure confidentiality of data behind the ranking.

- **Individual Environmental Product Déclarations**
- Ruled by international ISO and CEN standards on LCA And EPD development verification an dpublication
- Mandatory in Europe for complying with energy performance of building directive, for assessing Building construction and use impact.
- Required by Green building certifications
- Ecotoxicity indicators are complex and unclear for non experts.

MHS New layout

Example of the iD Square

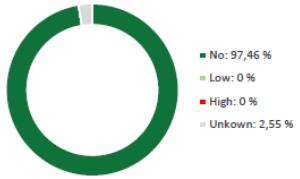
MHS® BY EPEA
MATERIAL . HEALTH . STATEMENT

iD Square

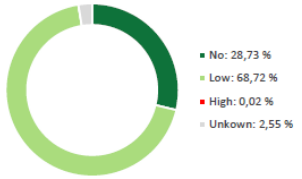
Company:	TARKETT
Product specifications	iD Square; Even Plane
Issue date:	October 15., 2023
Expiration date:	October 14., 2025
Evaluation and declaration threshold:	At least 100 ppm of the final product
After-use scenario:	Tarkett proposes to take back your installation residues and your products after use, thanks to the TARKETT ReStart® Program. **Check Tarkett national websites for Restart program availability**
EPEA Registry No:	40507.2
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.
- 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.

The MHS® is a registered trademark of the EPEA GmbH – Part of Drees & Sommer

iD Square

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING Use phase	EPEA RATING Overall	GS-LT GS-BM[a]	REACH
PVC	Polyvinylchloride	9002-86-2	40.3%			LT-P1	✓
	PVC polymerization additives[b]	*Proprietary[b]*	1.5%			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. VOC tests performed on comparable products do not indicate immediate emissions that could be traced back to polymerization additives. *Nanomaterials: No.*						
Fillers	Calcium carbonate	471-34-1	33.8%			LT-UNK	✓
	Aluminium trihydrate	1333-84-2				LT-UNK	✓
	Crystalline silica - Quartz type[b]	*14808-60-7*				LT-1	✓
	Glass fibers[b]	*65997-17-3*				LT-UNK	✓
	Fillers consist of pulverized calcium carbonate of virgin with particles with a mean size of 20 and 40 µm respectively and the flame retardant aluminium trihydrate. 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	19.5%			LT-UNK	✓
	Terephthalic acid, dioctyl ester (DEHT)	6422-86-2				LT-UNK	✓
	Dibutyl terephthalate (DBT)	1962-75-0				None	✓
	Bis(2-ethylhexyl)adipate (DEHA)	103-23-1				LT-P1	✓
	1,2-Cyclohexanedicarboxylic acid, 1-methyl, 2-isononyl ester (MINCH)[b]	*Not available*				N.I.	✓
	Terephthalic acid, butyl methyl ester (MBT)[b]	*52392-55-9*				N.I.	✓
	Alternative to phthalate plasticizers 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 MBT and MINCH irrespective of their amount < 0.1% in the total composition. *Nanomaterials: No*						
Heat stabilizers	Soybean oil, epoxidized (ESBO)	8013-07-8	1.9%			LT-P1	✓
	Triisotridecyl phosphite	77745-66-5				LT-P1	✓
	Triisodecyl phosphite	25448-25-3				LT-P1	✓
	Hexanoic acid, 2-ethyl-, zinc salt, basic	85203-81-2				LT-UNK	✓
	Neodecanoic acid, zinc salt, basic	84418-68-8				None	✓
	2-Ethylhexanoic acid, potassium salt	3164-85-0				LT-UNK	✓
	Dibenzoylmethane	120-46-7				LT-UNK	✓
	2-(2-n-Butoxyethoxy)ethanol	112-34-5				LT-P1	✓
	Benzene, C10-13-Alkyl derivatives	67774-74-7				LT-UNK	✓
	Other heat stabilizer components	Proprietary				LT-P1	✓
						LT-UNK	✓
						N.I.	-
	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. Conditions for restrictions of the volatile 2-(2-n-Butoxyethoxy)ethanol defined in EU legislation do not apply to occurrences in flooring productions recipes. *Nanomaterials: No*						

iD Square

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING Use phase	EPEA RATING Overall	GS-LT GS-BM[a]	REACH
Reinforcement	Glass veil	65997-17-3	1.4%			LT-UNK	✓
	Polyethylenterephthalate	25038-59-9				LT-UNK	✓
	Binder chemicals	Proprietary				N.I.	
	A glass fibre veil and a polyester veil are two alternatives for enhancing the dimension stability of iD Square. They are encapsulated in the flooring matrix. The glass fibre based veil consists of fibres with a diameter exceeding 10 µm and a length of 12 mm. No information on the specific binder composition (About 25% of the reinforcement system) but no concern seen. *Nanomaterials: No*						
Coloration agents	Titanium Dioxide	13463-67-7	0.5%			LT-1	✓
	Carbon Black	61512-59-2				BM1	✓
	Pigment Yellow 93	5580-57-4				LT-P1	✓
	Pigment Blue 15:1	12239-87-1				LT-UNK	✓
	Other pigments	Proprietary				LT-UNK	✓
						LT-UNK	✓
						N.I.	-
	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 iD Square. 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	Azodicarbonamide	123-77-3	1.0%			LT-UNK	✓
	Sodium oxide	12401-86-4				LT-UNK	✓
	Other additives	Proprietary				LT-UNK	✓
						N.I.	-
	Azodicarbonamide has mutagenic potential and is classified as substance of very high concern (SVHC) in the EU for its strong sensitization potential. It is decomposed to benign chemicals during the blowing reaction and present at most as traces in the finished product. At most 0.2% 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	Pentaerythritol tetraacrylate	4986-89-4	0.1%			LT-UNK	✓
	Other precursors of the surface treatment	Proprietary				LT-P1	✓
						LT-UNK	✓
	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. 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. *Nanomaterials: No*						

THEREOF			
Content sourced from abundant minerals		50%	Calcium carbonate and the chlorine of PVC originate from abundant mineral resource.
Recycled content	- Internal post-industrial source (Reprocessed own production output)	1.9%	The recycled content used to produce iD Square is originating from Tarkett own production. Its composition is currently chemically defined for 95% of its mass.
	- Post-installation / Pre-use source	-	
	- Post-use source	-	
Biologically renewable content	- Animal	-	No chemical with a possible animal origin is identified.
	- Vegetal	1.0%	Epoxydized soybean oil is of vegetal origin.

What's inside?

First page

iD Square

Company:	TARKETT
Product specifications	iD Square; Even Plane
Issue date:	October 15., 2023
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EPEA Registry No:	40507.2
MHS Version:	3.0

Extract from iD Square MHS

List of product covered

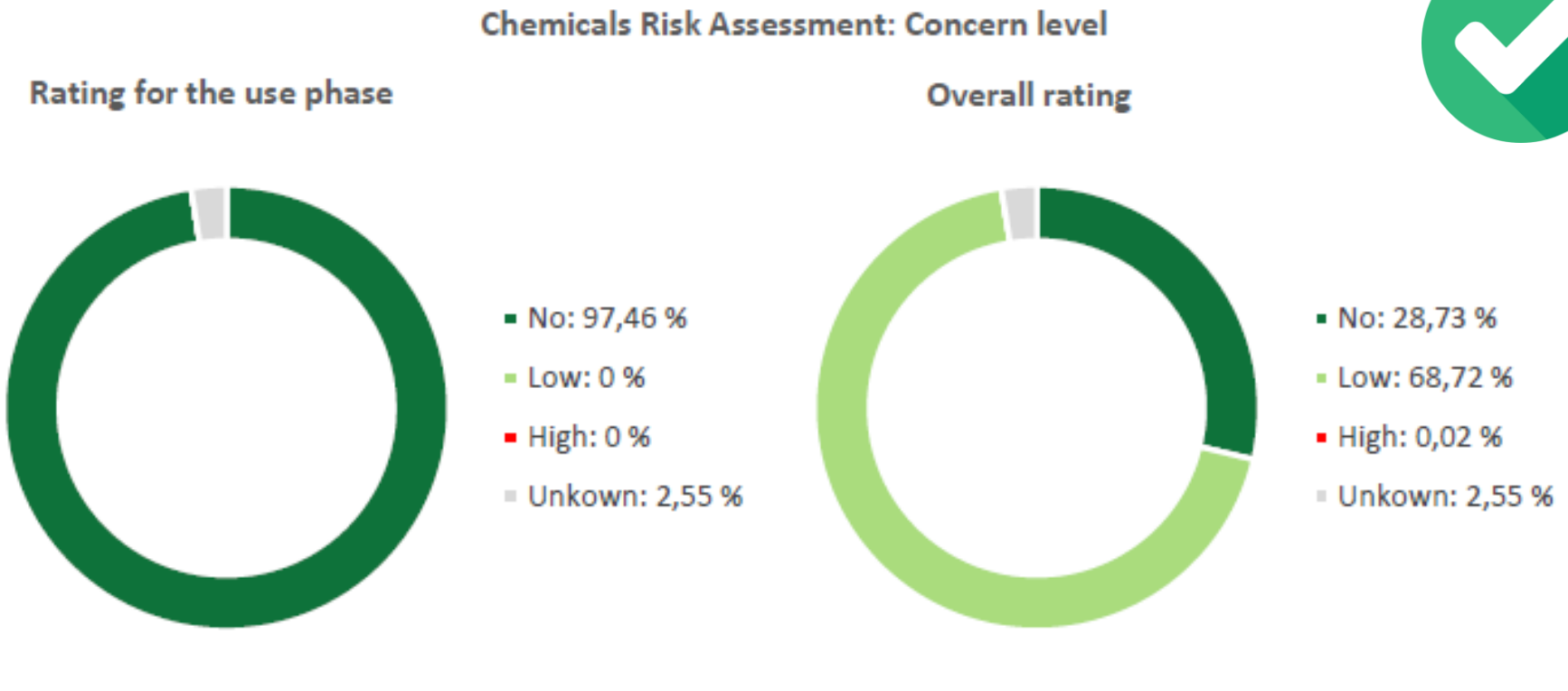
2 year validity document

Proof of recycled content

Second-time MHS for this product

What's inside?

Overview of the rating



NO risk for the consumer

Extract from iD Square MHS

Tarkett

What's inside?

Formula of the product

Unique numerical identifier assigned by the Chemical Abstracts Service (CAS) to every chemical substance described in the open scientific literature

% (weight) of the component in the formula

Colour-coded rating given by the EPEA

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

GreenScreen List Translator Score and GreenScreen Benchmark Score according to Toxnot classification, an American classification of chemicals (https://toxnot.com/)

REACH is the European Community Regulation on chemicals and their safe use.

- ✓ **Non hazardous substance OR <0,1%**

Comment of the EPEA on the use or the exposure to this component

FUNCTION	CHEMICAL	CAS	CONTENT	EPEA RATING		GS-LT GS-BM[a]	REACH
				Use phase	Overall		
PVC	Polyvinylchloride	9002-86-2	40.3%			LT-P1	✓
	PVC polymerization additives[b]	*Proprietary[c]*	1.5%			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. VOC tests performed on comparable products do not indicate immediate emissions that could be traced back to polymerization additives. *Nanomaterials: No.*						
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	Aluminium trihydrate	1333-84-2				LT-UNK	✓
	Crystalline silica - Quartz type[b]	*14808-60-7*				LT-1	✓
	Glass fibers[b]	*65997-17-3*				LT-UNK	✓

Extract from iD Square MHS

Tarkett

Transparency

Our Achievements

95%

of our raw materials – covering 5000 materials – are third-party assessed based on Cradle to Cradle® criteria

69%

of raw materials are now abundant, rapidly renewable, or recycled.

What is Cradle to Cradle®?

Cradle to Cradle® sets global standards for products that are safe, circular and made responsibly.

26

Cradle to Cradle® certifications covering a wide range of product categories: 4 Gold, 9 Silver, 6 Bronze.

Material Health Statements (MHS) on demand

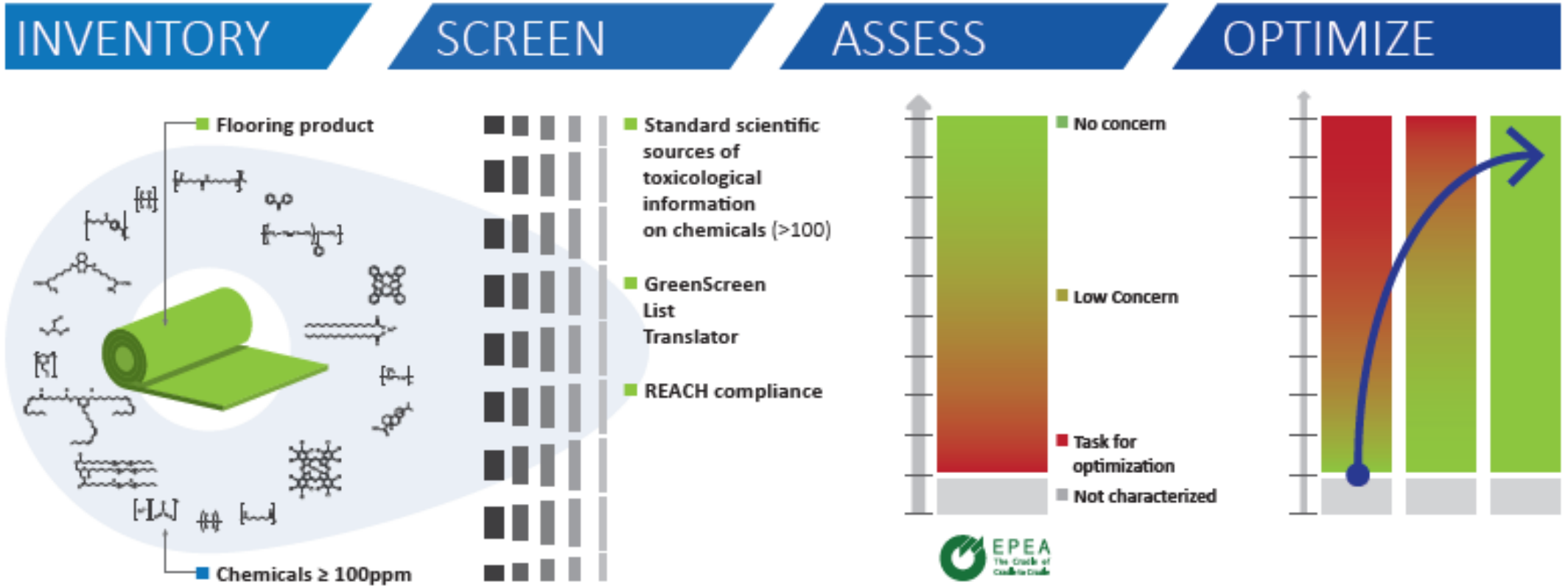
Disclosing exact composition of our products, right down to 0.01%

75% of our collections in Europe have an MHS.

Environmental Product Declarations (EPD)

65% of our collections in Europe have an EPD disclosing the climate impact throughout the product life cycle.

Tarkett's Path for product optimisation



100 ppm = 0,01%

Third party verification

Tarkett

CERTIFIED SUSTAINABLE

- SBTi: Approval of our 2030 climate targets in January 2023.
- EcoVadis: Platinum in 2024, i.e. top 1% of all 130,000 rated companies in 180 countries.
- CDP Climate Rating: A score, top 2% of 24 800 rated companies in February 2025.
- Global Compact: First flooring manufacturer to join the United Nations Global Compact in 2010.
- Cradle to Cradle® certification for products applied since 2010.
- Europe's Climate Leaders: Achieved ranking by Financial Times UK and Statista since 2022.

Thank you.

Myriam Tryjefaczka

Tarkett Sustainability and public affairs EMEA

Myriam.tryjefaczka@tarkett.com

Audience Interaction + Q&A

Active poll

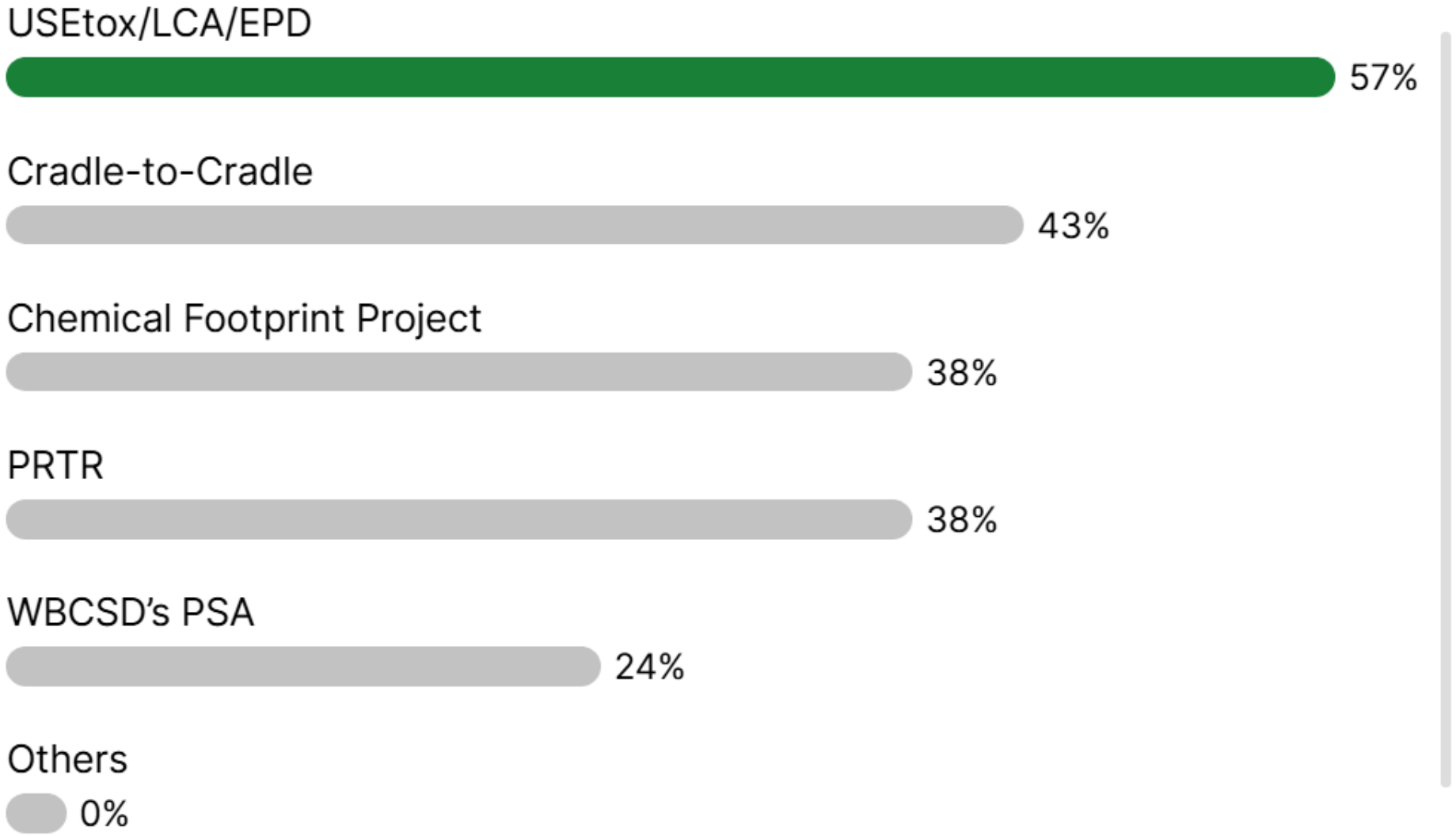
21

Join at

slido.com

#1736 575

Which of the featured chemical footprint approaches are you familiar with?



Active poll

11

Join at

slido.com

#1736 575

For what purpose did you use the chemical footprint approach? Please enter maximum 3 words

Questions & Answers

Please fill in the online survey

bit.ly/cfp-oewg-gfc
Survey open until 31 July 2025

Thank you!

Sign up to stay informed

https://forms.office.com/e/eYSC9j12vm