

Chemical traceability in the context of digital product passport



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ECHT Workshop 20250618

Outline

- Intro ESPR & DPP & ...
- Example 'garments'
- Example 'carpet'
- Testing & Market surveillance

Legal framework and main aspects



Legal basis

The DPP's original legal basis can be found in the **Ecodesign for Sustainable Products Regulation (ESPR)**.

+ *Product specific delegated acts (textiles, steel and aluminium, tyres, furniture, ICT, energy related products)*

Standalone legislation also refer to the DPP:

- Battery Regulation
- Toy Safety Regulation
- Detergent Regulation
- Packaging and Waste Packaging Regulation
- Green claims Directive
- Construction Products Regulation

ESPR Information Requirements

(note: full list Eco-design parameters: annex 1, ESPR)

General Info (ESPR)
Unique Product Identifier
Economic Operator and Production Location
Composition
Substances of Concern and their location in the product
Carbon footprint
Use and Safety Instructions
Custom tariff codes

Recyclability
Ability to separate the product into different materials
Choice of materials and restrictions on substances which can hinder recycling
Conditions for the access to product data relevant for the recycling, including dismantling information
Recyclability scoring label (depending on the product-specific composition)

Durability
Resistance to stress or aging mechanism
Min. durability of function (ex. Software components)
Repairability scoring index/label
Availability of Repair information and maintenance instructions
Repair information
Spare part availability
Spare part delivery time
Disassembly related to skill level
Number of materials and components used
Modularity, transformability, detachable/adjustable elements
Possible lifetime
How to manage the product at the end of its lifetime
Post Consumer Recycled Content
Min content of PCR material in product
Min content of PCR material in packaging

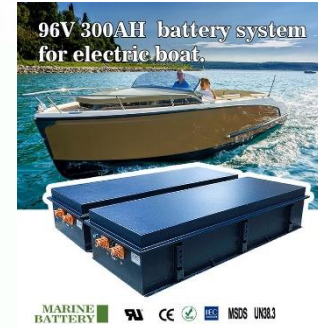
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CISUTAC main idea:

Holistic project
to increase the circularity and sustainability
of textiles and clothing in Europe
and influencing sectorial and consumers behaviour



Fashion



Workwear & PPE



Active goods

DPP related part of CISUTAC

Why:

Build a shared understanding of how the Digital Product Passport (DPP) can play a key role in unlocking the potential of post-consumer textile waste as a valuable secondary raw material.

What:

Outline the potential data requirements

Harmonizing the terminology — enabling consistent data input, usage, and exchange across stakeholders.

How:

Offer practical first steps for organizing processes and data to support sorting and recyclability,

Provide **strategic guidance** to enable the development of a digital ecosystem and the upcoming DPP.

Challenge:

Alignment with the wide range of external activities, both in scope and timing: offer complementary relevant information and solutions.

RI.
SE



Open tool for textile waste channelling

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Welcome to CISUTAC's solution for post-consumer textile waste management!

Our open-sourced tool revolutionises the way we approach post-consumer textile waste by prioritising data points for efficient sorting to reuse, and recycling.

Our tool empowers the textile ecosystem to make informed decisions, driving a digital change in line with the upcoming digital product passport legislation, and enable a more accurate feedstock for the recycling industry and unlock potential for the reuse market

More ? [Solution for post-consumer textile waste management](#)

23 data points for decision routes



Overview 'circularity' data

- Understand which data points can accelerate reuse, repair, and (fibre-to-fibre) recycling
- CISUTAC suggestions for (minimum) data requirements for upcoming ESPR/DPP

Data points	Description	REUSE - minimum requirement today	REPAIR - minimum requirement today	RECYCLE - minimum requirement today
Condition	Setting the quality levels for the post consumer textile waste	X	X	X
Product construction (monomaterial and multi)	Describes if it is one or more materials in the product, 2 options, mono or multi			X
Multilayer (coating or membrane)	Describes if it is a coated or laminated material			X
Chemical content	Yes or No option with focus on SVHC substances	X	X	X
Production year	Relevant for reuse, trend and chemical legislation			
Product type	14 different types of products that follows the code system from import	X	X	
Brand	Important for 2nd hand and durability as well as trend	X	X	
Price	Relevant for the 2nd hand market, focus on recommended market price	X		
Product gender	Relevant for the 2nd hand market, we used wmn, men, unisex, junior and kids	X		
Repairability	Information on how to repair and if it is possible on certain products		X	
Durability	Relevant and measurable data on pilling, abrasion and tearing	X	X	
Fiber composition	The blend of fibers in the fabric, the tool focus on 2 main fabrics	X		X
Recycle content	Percentage of recycle fiber in the yarn, focus on cotton and polyester			X
Recycle method	Type of recycle method that is used for the fiber			
Textile finishing	All treatments of the textile such as dyeing, chemicals for function, finishing	X	X	X
Fabric construction	Construction of the fabric that indicates the surface that can affect recycling			
Fabric colour	4 type of groups such as bright, dark, light and multi	X		X
Textile fiber	Construction of the fiber such as length and fineness			
Fabric weight	Weight in gsm, useful data for some recycle methods			
Disruptors	Yes or No option for hardparts or trims on product			X
Product disassembly	Indicates if the product can be taken apart or have an easy way to take away		X	X
Certificate	Different levels of verified certifications to be used for traceability			

Project acronym CISUTAC
Grant agreement nr 101060375
Project title Circular & Sustainable Textiles & Clothing



Open Data Guide

Deliverable D2.2

More ? CISUTAC Open Data Guide will be available by end of 2025

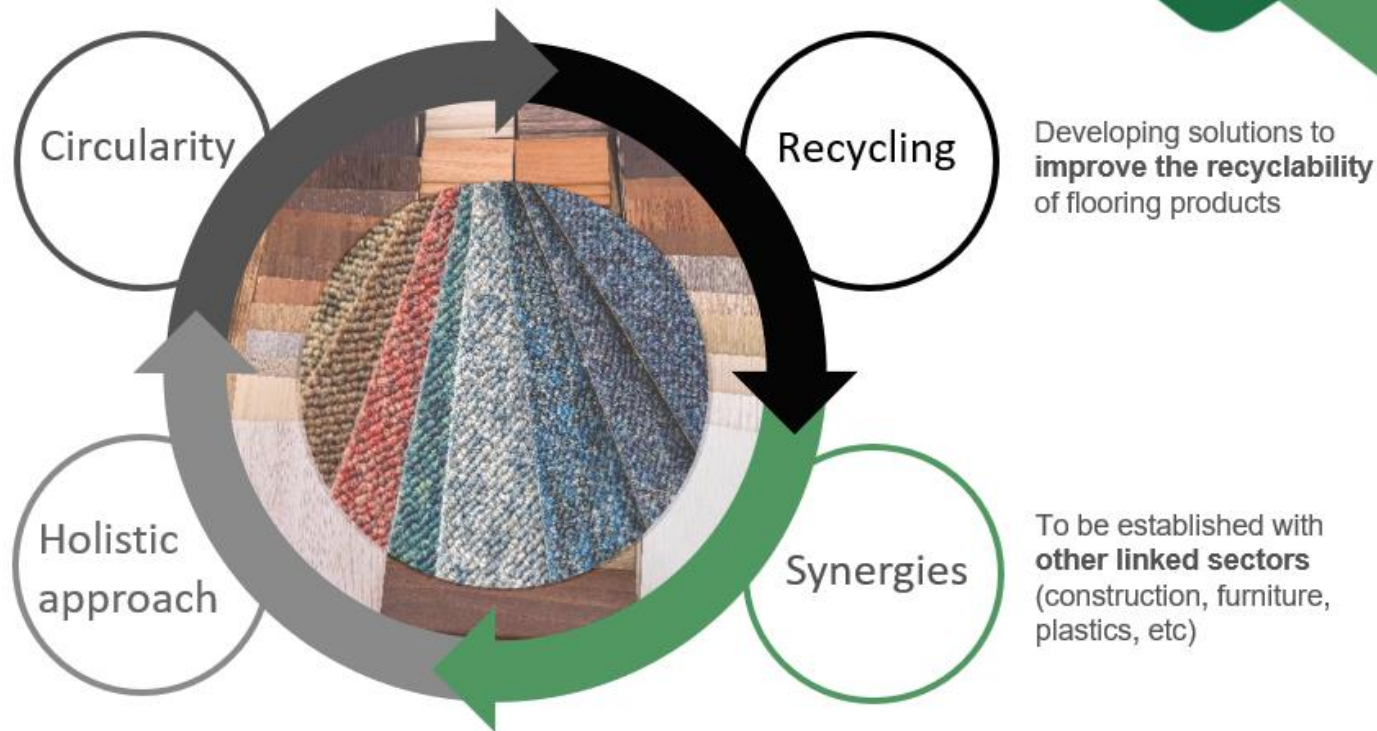
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CISUFLO main goal: transition to a sustainable circular flooring sector

Design and manufacturing new products, with high **recycled content** and fully **fit for the circular economy**

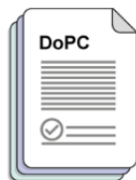
Covering the **entire value chain** to enable the shift to a **circular business model**, including the setup of an integrated product information system



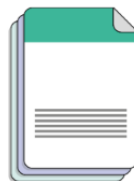
Carpet is a 'Construction Product'

DPP as overarching digital implementation of existing (and 'extra') data

Construction DPP content



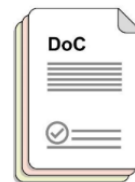
**Declaration of
performance and
conformity**



**General product
information,
instructions for use
and safety information**



**Technical
documentation**



**Documentation
required under other
Union law**



**Label
(when applicable)**

Unique product identifier

dpp:GTIN:3234567890126

Unique operator identifier

dpp:VAT:AT U14589505

Unique facility identifier

dpp:ISO3166-2:BE



**Data carriers
Key parts**

Standardisation input for DPP (CEN/TC 134)

The product passport according to this document is intended to provide stakeholders with standardized information about a product throughout its life cycle.

Product constituents – *DRAFT TEXT (!)*

- The substance threshold for disclosure: in % (ppm) of the final product for example “1 %” (10000 ppm)
- The weight fraction of all substances in %: value or value range for example “10 - 20 %”.
- The composition disclosure lists at least the function (for example “plasticizer”, “fiber”), and content (%) as well as substances (for example “DINP”, “PA6”...) and CAS numbers (e.g. 28553-12-0, 25038-54-4 ...) when no proprietary information is applicable

Standardisation input for DPP

Hazard statements – *DRAFT TEXT (!)*

- The product contains Substances of Very High Concern from the Regulation (EC) No 1907/2006 (REACH) Candidate list published in accordance with Article 59 (10) of the Regulation (EC) No 1907/2006 (REACH) Regulation in concentration above 0,1 % by weight: Yes/No²
- The product contains restricted substances that could exceed limits defined in Annex XVII of the Regulation (EC) No 1907/2006 (REACH) regulation related to the specific use which is relevant for this product: Yes/No
- The product contains substances that have a harmonized classification as CMR 1A or 1B in concentration above classification criteria for mixtures and/or specific concentration limits related to a substance defined in the Regulation (EC) No 1272/2008 (CLP): Yes/No
- The product contains substances listed in Annex I, II and III of Regulation (EU) No. 2019/1021 on Persistent Organic Pollutants above the allowed concentration: Yes/No

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BETTER MARKET SURVEILLANCE AND PRODUCT COMPLIANCE

for textile products

A WELL-FUNCTIONING EU MARKET SURVEILLANCE SYSTEM IS AN ESSENTIAL PREREQUISITE TO PROTECT CITIZENS, THE ENVIRONMENT AND THE COMPETITIVENESS OF RESPONSIBLE BUSINESSES. A STRONG COLLABORATION BETWEEN AUTHORITIES, THE TEXTILE AND CLOTHING INDUSTRY AND TESTING LABORATORIES IS URGENTLY NEEDED TO ADDRESS THIS ISSUE.

<https://euratex.eu/reach4textiles/>



Risk-based textile testing

Chemical analysis lab at Centexbel



Composition & Properties

In chemical testing textile samples are analyzed by using chemicals and/or they are tested on their chemical properties and composition

REACH compliance

Compliance to REACH allows companies to:

- Prove they are safeguarding human health and the environment
- Access the EU market
- Avoid regulatory fines and litigation

EOL & recycling

"Hazardous chemicals were found in 78% of post-consumer cotton, 90% of post-consumer polyester and 100% of post-consumer wool samples."

2017, H&M report

Complex articles should be split up into separate components in order to be able to define what chemical tests are necessary. Extra information on the composition, claims, origin, ... of the material could also be incorporated into the data. The easiest way of reporting is shown below.

SAMPLE CODE

Sample ID #



MATERIAL/ SPECIAL TREATMENTS

50% polyester, 32% polyamide, 18% elastane

COMPONENTS

1. Main flower fabric
2. Black lining
3. Black mesh
4. Pads
5. Elastic breast
6. Black elastic shoulder
7. Flower elastic shoulder

MADE IN

“Country of origin”

TESTING

1+2+3+5+6+7: Bisphenols, Quinolone, NPEO

1-3: Carcinogenic Amines

5-7: PAHs

4: Organotin

The same approach and guidelines can be used by Market Surveillance Authorities to easily report on chemical testing of textile consumer products.

RISK-BASED TESTING MATRIX	CARCINOGENIC AMINES	PHthalATES	NPED	CADMIUM	PAH'S	PFC'S	CHROMIUM VI	ORGANOTIN COMPOUNDS	DMF	LEAD	SCOP/MCOP	FORMALDEHYDE	QUINOLINE (SYNTHETIC MATERIAL)	SILDXANES	NICKEL	BISPHENOLS	PCP
COLOURED FABRICS (MIDDLE EAST)																	
PRINTS																	
PLASTIC, RUBBER PARTS (TEETH ZIPPER, BUCKLE, BUTTON)																	
WATER RESISTANT, REPELLENT FABRICS																	
TEXTILES WITH IRON FREE FINISH																	
PU-COATED MATERIALS/PU PRINTS																	
PVC-COATED MATERIALS																	
LEATHER																	
PA/ELASTANE OR MIXTURES																	
WOOL, RECYCLED WOOL																	
METAL PARTS																	
ELASTIC PARTS																	
FOAM																	
SILICONE FROM CHINA																	
PRINTED SILK																	

	RELEVANT TO TEST
	ONLY TEST ON RECYCLED MATERIALS AND/OR ARTICLES PRODUCED IN COUNTRIES FROM THE MIDDLE EAST
	ONLY SOFT PLASTIC PARTS
	ONLY COATED LEATHER
	ONLY DIRECT SKIN CONTACT
	PES AND RECYCLED MATERIALS

160 items tested
28 *not* conform



Contact

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