

Chemical traceability in the context of digital product passport

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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)	Durability	Post Consumer Recycled Content
Unique Product Identifier	Resistance to stress or aging mechanism	Min content of PCR material in product
Economic Operator and Production Location	Min. durability of function (ex. Software components)	Min content of PCR material in packaging
Composition	Repairability scoring index/label	
Substances of Concern and their location in the product	Availability of Repair information and maintenance instructions	
Carbon footprint	Repair information	
Use and Safety Instructions	Spare part availability	
Custom tariff codes	Spare part delivery time	
Recyclability	Disassembly related to skill level	
Ability to separate the product into different materials	Number of materials and components used	
Choice of materials and restrictions on substances which can hinder recycling	Modularity, transformability, detachable/adjustable elements	
Conditions for the access to product data relevant for the recycling, including dismantling information	Possible lifetime	
Recyclability scoring label (depending on the product-specific composition)	How to manage the product at the end of its lifetime	

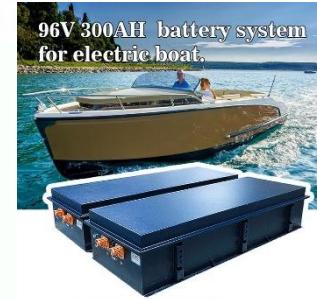
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96V 300AH battery system for electric boat.



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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!

A large, semi-transparent teal overlay covers the background image of a textile waste facility. The image shows several large piles of discarded textile materials, industrial equipment like a metal cart, and two workers in the distance. The text is centered over this image.

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

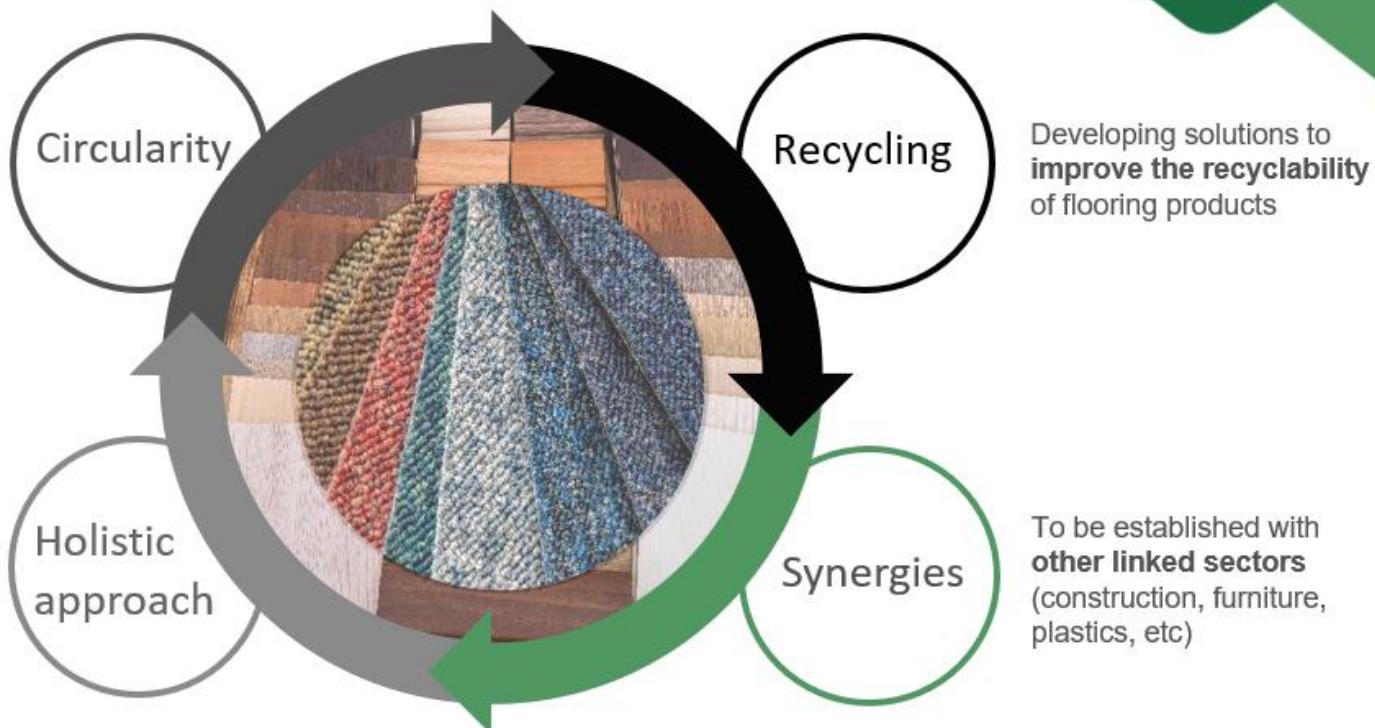
More ? CISUTAC Open Data Guide will be available by end of 2025

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CISUFLO main goal: transition to a sustainable circular flooring sector

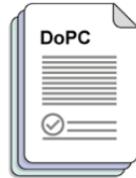
Design and manufacturing new products, with high **recycled content** and fully **fit for the circular economy**



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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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/>

BETTER MARKET SURVEILLANCE AND PRODUCT COMPLIANCE

for textile products

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	MATERIAL/ SPECIAL TREATMENTS	MADE IN
	50% polyester, 32% polyamide, 18% elastane	"Country of origin"
COMPONENTS	TESTING	
1. Main flower fabric	1+2+3+5+6+7: Bisphenols, Quinoline, NPEO	
2. Black lining	1-3: Carcinogenic Amines	
3. Black mesh	5-7: PAHs	
4. Pads	4: Organotin	
5. Elastic breast		
6. Black elastic shoulder		
7. Flower elastic shoulder		

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

	DARLINGENIC AMINES	PHthalates	NPEO	CADMIUM	PAHs	PFCS	CHROMIUM VI	ORGANOTIN COMPOUNDS	DMF	LEAD	SCCP/MCP	FORMALDEHYDE	QUINOLINE (SYNTHETIC MATERIAL)	SULFONATES	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

Contact

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