

The Digital Product Passport

 **BASF**

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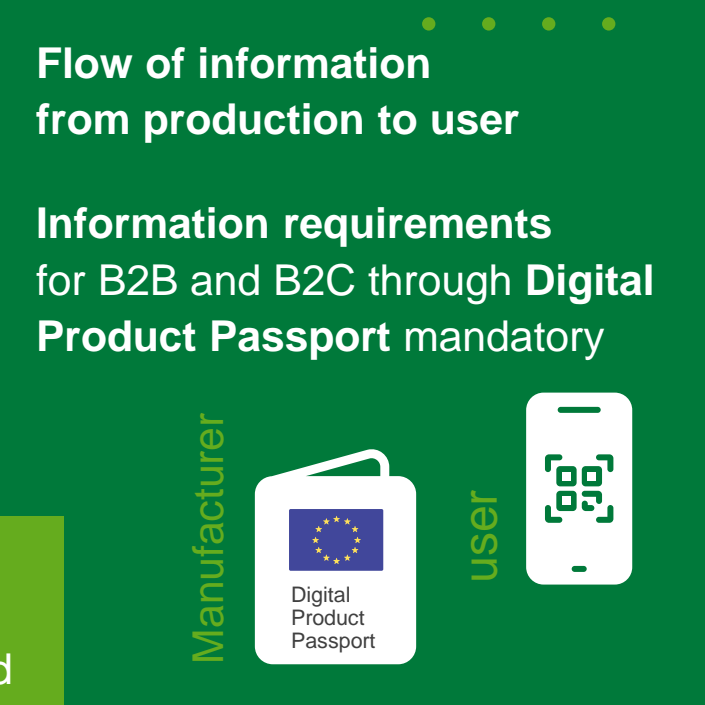
First ESPR product groups will enter EU market in 2027

What is a product group? Both **end-use** and **intermediate products** in focus including chemicals.

What are mandatory requirements and how does it reach the customer?
The list of mandatory sustainability requirements includes

- product durability, reusability, reparability
- **substances of concern** in products and processes
- product energy and resource efficiency
- recycled content and recycling
- products' carbon and environmental footprints
- renewable materials

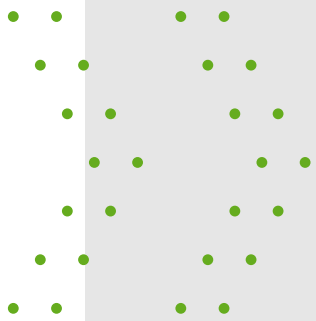
Further requirements: Reporting of and ban to destroy **unsold consumer goods.**



All physical goods* on the EU market should be more environmentally friendly, circular and energy efficient throughout their lifecycle. Requirements will be set on a **product-group basis.**

* exempted: food, feed, medicinal products, plants, animals and products of human origin, *automotive, national defense*

More than 30 end-use and intermediate product groups in focus



Cleaning products, detergents, cosmetics



Toys & tires



Garment, ICT

Between 2024 and 2031, the EU Commission wants to regulate at least four product groups per year. Those with high environmental impact and improvement potential will be tackled first.

End-use and intermediate products in focus of ESPR

End-use products

- Textile and Footwear
- Furniture
- Tyres
- Detergents
- Bed Mattresses
- Lubricants
- Paints and Varnishes
- *Energy related products*
- *ICT and other electronics*
- Ceramic Products
- Cosmetic Products
- Toys
- Fishing Nets and Gears
- Absorbent Hygiene Products

Intermediate products

- Iron and Steel
- Aluminium
- **Chemicals**
- Non-Ferrous Metals
- Plastic and Polymers
- Paper, Pulp Paper and Boards
- Glass

Horizontal requirements

For products with one or more similarities horizontal requirements can be set *and can also include products that are not part of the working plan.*

Legend: Product groups in green named as non-binding priority products for first working plan.

Draft selection of prioritized product groups. The first working plan is expected in 2025.

Relevance for the chemical industry: Substances of concern will be regulated throughout their life cycle

→ **Broad tracking with high administrative effort expected**

→ **Substance restriction possible**

Danger of Double Regulation: Where REACH/ESPR might overlap

Performance requirements [...] shall not restrict the presence of substances in products for reasons relating primarily to chemical safety. *However, the establishment of performance requirements shall also where appropriate, reduce significant risks to human health or the environment.*

Substances of Very High Concern (REACH Art. 57)

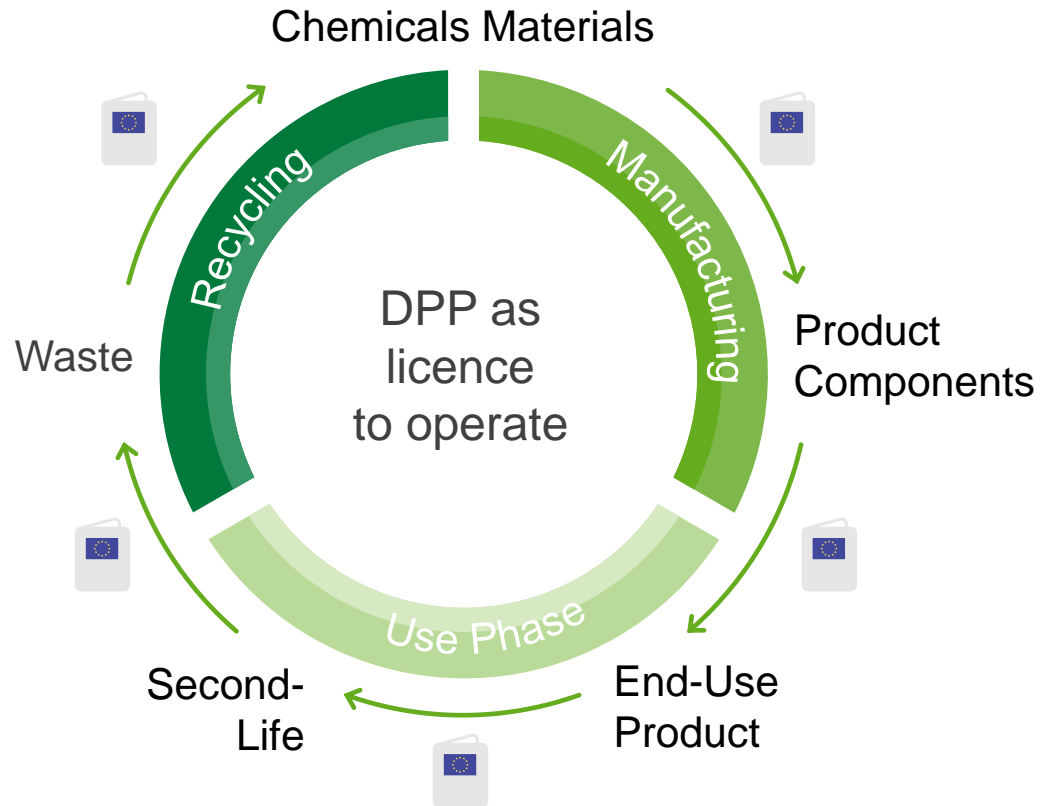
Substances which negatively affect re-use and recycling of materials in the product in which it is present

Substances in Annex VI to CLP with (mainly) chronic effects:

- CMR (1+2)
- ED (1+2)
- PMT, vPvM, PBT, vPvB
- Resp. sens. (1)
- Skin sens. (1)
- Aquatic tox. (1-4)
- Hazardous to ozone layer
- Spec. target organ tox. (single + repeated, 1+2)
- *POP restricted substances*

Substances of concern will be tracked throughout the life cycle of products including production process and waste. Information requirements: substance name, location, concentration (range), info for safe use and end-of-life.

Digital Product Passport mandatory for all ESPR products



This needs to be done first: Three DPP Milestones

1. Regulation: Introduction of the DPP **concept**, description of the **scope**, identification of some **key features**.
2. Identification of **essential technical requirements** to be developed through standardization process.
3. Delegated acts: Identification of the **specific information** to be included in the DPP for each product group.

Each product group with an active delegated act under the ESPR needs a Digital Product Passport (DPP) containing sustainability related product information.

Chemical players will have to issue DPPs for chemicals, metals and polymers. First DPPs expected in 2027.

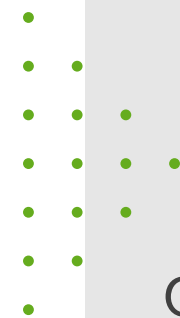
Avoid heterogenous DPP data models for same product and multiple DPP systems

Opportunities

- Simplify information flow within value chain and to authorities
- Communicate proven and additional sustainability benefits

Risks

- Multiple, non-interoperable DPP systems, pot. lock in on few system providers
 - High operating costs if different data models are established on industry level for the same product

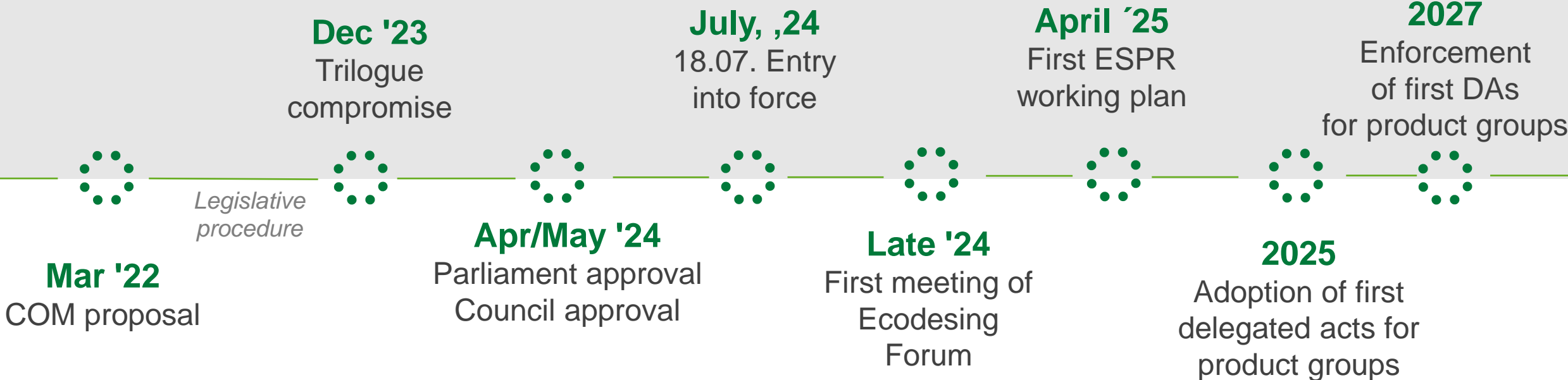


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Administration Shell should be used to avoid vendor lock-in and ongoing high costs to operate the EU DPP system.

Advocacy in the delegated acts for product specific EU DPPs and in standarization (CEN/CENELEC joint TC 24) by industry will be required.

Upcoming: Timeline

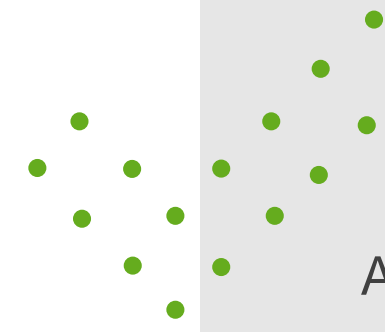




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Broad ESPR sustainability requirements

- Product durability and reliability
- Product reusability
- Product upgradability, reparability, maintenance, and refurbishment
- **Design for recycling**
- Presence of **substances of concern in products, production process and waste**
- Product energy, water and other resource efficiency
- **Recycled content** in products
- *Use or content of sustainable renewable materials*
- Product-to-packaging ratio
- Incorporation of used components
- Consumables for use and maintenance
- Product remanufacturing and recycling
- **Environmental footprint** of product (PEF and *others*)
- **Carbon footprint** of product
- Material footprint of product
- Products' expected generation of waste
- **Microplastic and nanoplastic release**
- *Emissions to air, water, soil*
- *Functional performance*
- *Lightweight design*



All *relevant* sustainability requirements will be **set in product-specific delegated acts** and may vary from product-to-product class.

Key features of the mandatory Digital Product Passport

No proprietary solutions

All information included in the product passport shall be written in an open, standard, inter-operable format and shall be machine-readable, structured, and searchable.

Granularity

The information included in the product passport shall refer to the product model, batch or item as specified in the applicable delegated act.

Access rights

(‘need-to-know’): The access to information included in the passport shall be regulated. The specific access rights at product group level will be identified in the delegated act.

Liability

The economic operator placing the product on the market is responsible for making available the EU DPP and for the information included therein.

Track & tracing

Unique operator identifiers and unique facility identifiers will be requested. These are key information component to allow the track & tracing of information along the supply chain.

Further standards must be developed or selected:

- Data carriers and unique identifiers
- Access rights management
- Interoperability incl. data exchange protocols and formats
- Data storage
- Data processing (introduction, modification, update)
- Data authentication, reliability, and integrity
- Data security and privacy