



ZELLER+GMELIN

The future of EU (food-)packaging

Sales Conference 2024

EXPERTLY DONE.

Regulatory Changes in the near Future



EU legislation at unprecedented speed

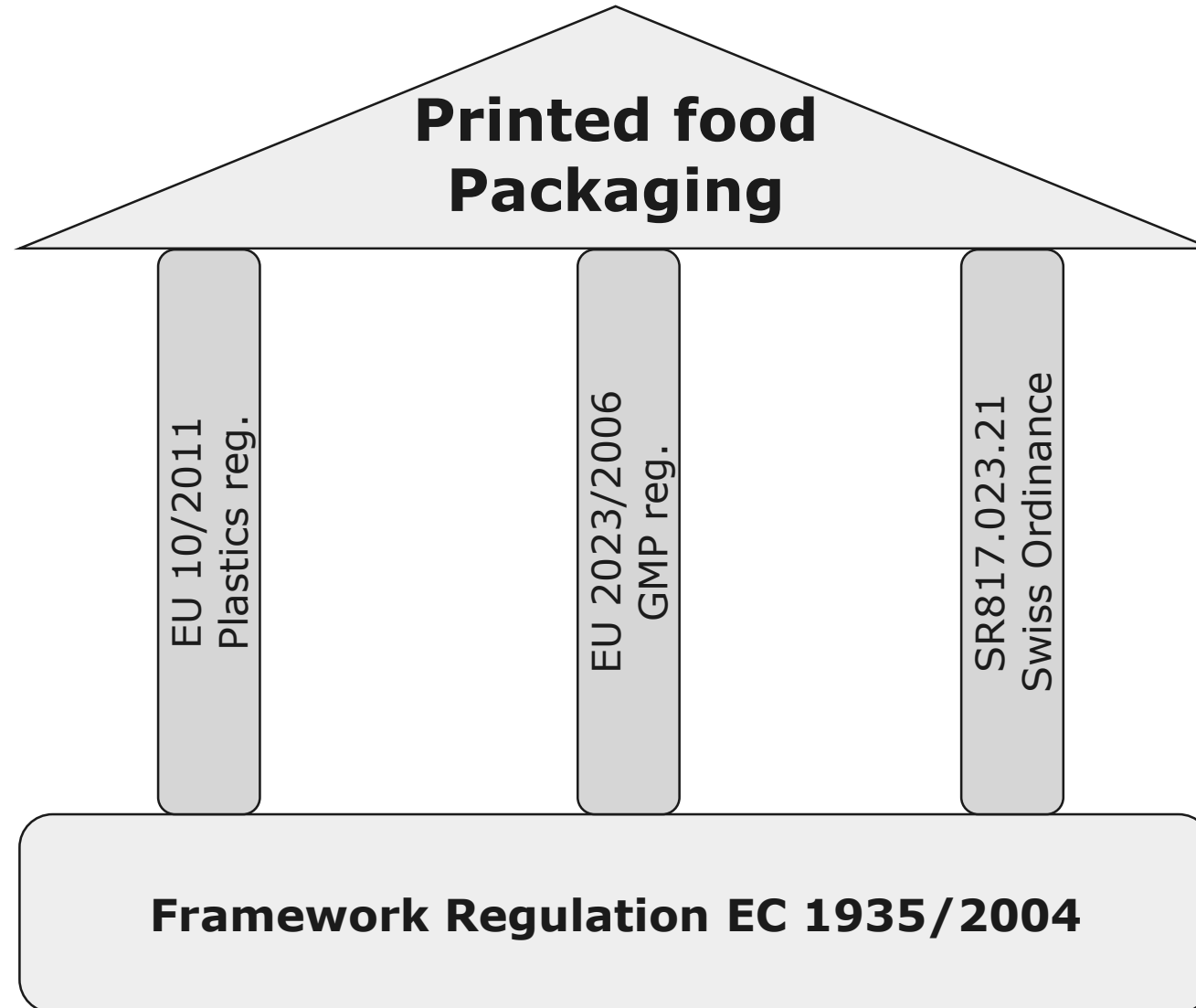


- + New Packaging and Packaging Waste Regulation (Q3/Q4 2024 + 12 months transition period)
- + Publication of "EU Recyclability Standards" as part of the Packaging & Packaging Waste Regulation (Publication 2025)
- + Enforcement of German Ink Ordinance (01.01.2026)
- + Enforcement of revised Swiss Ink Ordinance (31.01.2026)
- + Ban of BPA in food contact materials (2024?? + 18 months transition period)

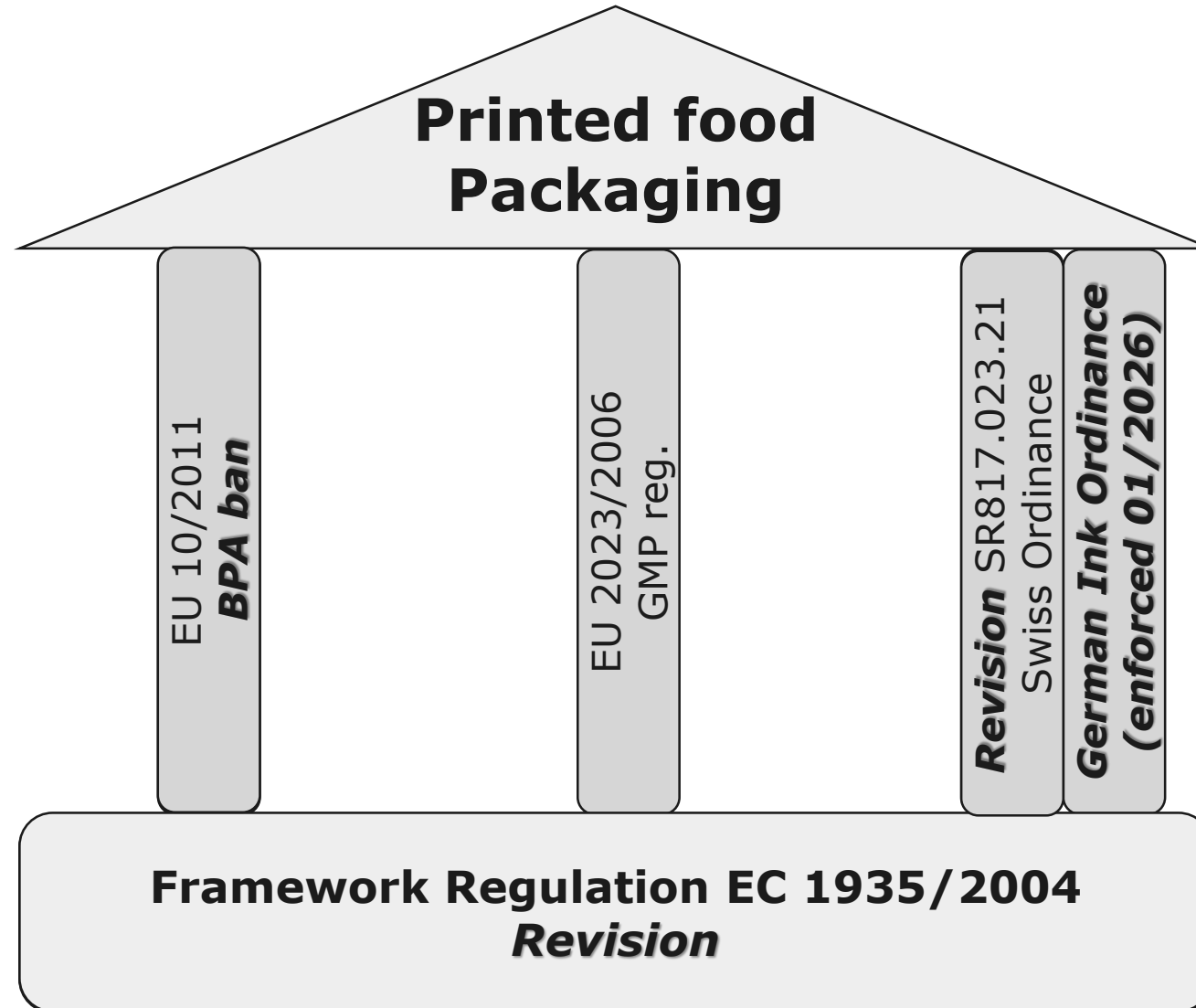


Changes in food contact legislation

Current regulations of printed FCM



Future regulations of printed FCM



German ink ordinance (GIO)



- + German national legislation/part of “consumer goods ordinance”
- + **printed food contact materials in scope (not inks)**
- + Compliance needs to be demonstrated for the final article
- + **transition period for placing on the market(!) until 2026**
- + **positive list of permitted substances**
- + **10ppb limit for non listed/non CMR substances**

German ink ordinance (GIO) - expectation



- + **Positive list still less entries than Swiss Ordinance (SIO)**
- + **One photoinitiator on the list**
(nonCMR and 10ppb criteria have to be applied)
- + **Some applications compliant with SIO will not be compliant with GIO**
(all scenarios where migration of a substance listed in SIO but not GIO is above 10ppb, all raw materials that are CMR 2 and listed in SIO but not GIO)

**Where necessary we will provide new/
improved products to ensure GIO compliance**

Swiss ink ordinance (SR817.023.21)



- + **Revision adopted 01.02.2024**
- + **Transition till 31.01.2026**
- + **Alignment with German ink ordinance**
(up to a certain degree...)
 - + Removal of B-List
 - + Introduction of a 10ppb-limit for all non-CMR substances
- + **Additional compliance documents mandatory**



Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra

EU ban of Bisphenol A in FCM



- + Latest evaluation by efsa resulted in a 20000x lower limit than today
- + New limit is below BPA detection limit
- + Limit is debatable but EU Commission has to act
- ⇒ **Revision of plastics regulation EU10/2011**
- ⇒ Ban of BPA at all stages of FCM production
- ⇒ **Ban of all BPA-based raw materials**

Publication: 2024? + 18 months transition period

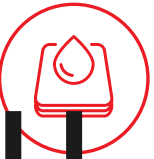


EU revision of framework regulation



- + Framework regulation EC1935/2004 was evaluated whether it is still fit for purpose
- + **Major revision planed**
- + Currently new concepts are discussed
- + **Drafting of a legal text not expected prior to 2025**
- + Main changes: No more material specific regulations (plastics, inks,...)

EU tiered approach for substances in FCM



Very hazardous

Not so hazardous

Everything else



Three tiers solely based on hazard classification

???

Exposure evaluation

Industry self-assessment

Next stage: risk assessment (no longer as prominent as today)

Ban to be expected

Positive lists?
Migration limits?
concentration in article?

Self derived migration limit?

Risk management measures



EU tiered approach for substances in FCM



Risks



- + Exposure and risk of small relevant (approach of max. safety)
- + Ban as standard scenario
- ⇒ Difficult to evaluate new raw materials (**innovations ↓**)

Opportunities



- + Possibility to evaluate your own raw materials
- + Clear rules for evaluation
- ⇒ Quick evaluation of new substances due to clear and simple requirements (**innovations ↑**)



Recycling and Compliance

Packaging & Packaging Waste Regulation



- + Packaging and Packaging Waste directive (94/62/EC) will be replaced by a EU regulation
- + Goal: political basis to achieve EU's 2030 recycling goals (70% recycling rate)
- + **HUGE** focus on recyclability
- + **Publication: Q2/Q3 2024 (+12 months transition period)**

But what's recyclable?



Recycling Guidelines



Mindeststandard für die Bemessung der Recyclingfähigkeit von systembeteiligungspflichtigen Verpackungen gemäß § 21 Abs. 3 VerpackG

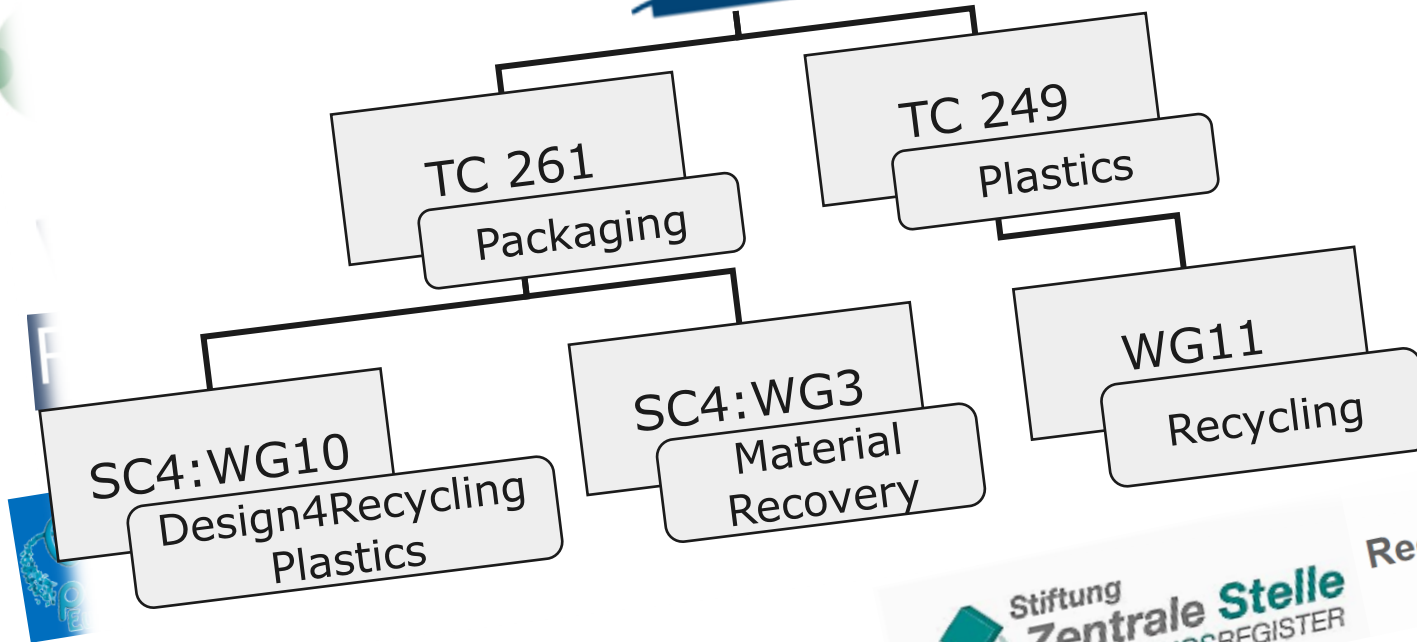


But what's recyclable?



15 Design for recycling standards:

- Methodology
- Sorting
- PET bottle
- Other PET rigid packaging
- PE & PP rigid packaging
- PE & PP flexible packaging
- PS packaging
- EPS packaging



Mindeststandard
Recyclingfähigkeit von systembeteiligungspflichtigen
Verpackungen gemäß § 21 Abs. 3 VerpackG



Timeline



**Packaging & packaging
waste regulation**

01/2024

Dealing with ~3000
comments to the
regulation.

03/2024

Final draft

06-09/06/2024

EU elections

Q2/Q3 2024

Publication expected

Q2/Q3 2025

Rules apply

2030

Recycling-
targets apply

Ban of non-
recyclable/hard
to recycle
packaging

**EU recycling
standards**

03/2024

Draft for national
committees

01/2024

Dealing with 700
comments to the
standards.

08/2024

Dealing with
comments from
national
committees

05/2025

Final publication

02/2025

Final draft

What to expect



From the regulation:

- + Ban of “Substances of Concern”
- + EPR fees based on recyclability
- + Ban of non/hard to recycle packaging from 2030 on

From the standard:

- + Definition what is recyclable and what’s not
- + Recyclability evaluation schema
- + No entry = testing required
- + Only limited entries on inks
- + No entries on direct printing on rigid plastics

The future of direct printing



- + Pigments in inks will always lead to discoloration
- + EU recycled content targets require virgin like material
- + Scenario 1: Ban of direct printing (also end of all flexible packaging)
- + Scenario 2: Deinking
- + Scenario 2 is more seriously discussed since 2023



How to define deinkable?



February 2024

DIN SPEC 91496

DIN

ICS 13.030.50; 55.040

**Recycling von bedruckten Kunststoffverpackungen –
Bewertung der Druckfarbentfernung mittels eines Messverfahrens;
Text Englisch**

Recycling of printed polymer packaging –
Evaluation of deinking using a test procedure; Text in English

Recyclage des emballages en polymères imprimés –
Évaluation du désencrage à l'aide d'une procédure d'essai; Texte en anglais

***Test method for objective
determination of the deinkability
of printed plastic packaging***

 **ZELLER+GMELIN** 

 **SunChemical**[®]  **SIEGWERK**

 **KEYCYCLE**[®]
TURNKEY SOLUTIONS | EREMA GROUP

 **COVERIS**[™]

 **MERCK**  **NEXTEK**

 **HydroDyn PreOne**[®]
RECYCLING  **interzero**[®]

EARTH PRINT™



- + **Recycling friendly series for rigid plastic**
- + Developed by Zeller+Gmelin US
- + Designed to allow deinking according to US standards
- + Non REACH materials = not suitable for EU marked
- + **Concepts can be applied to EU formulations as well**

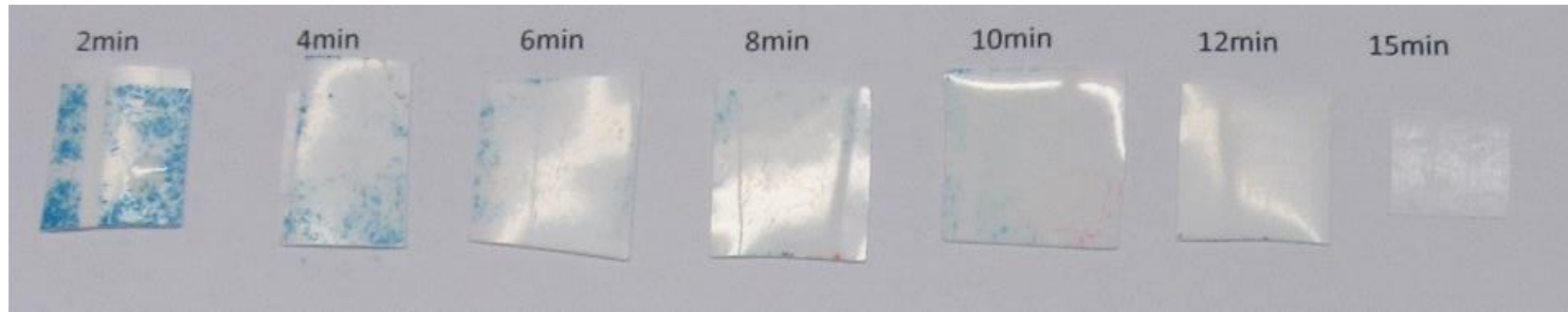


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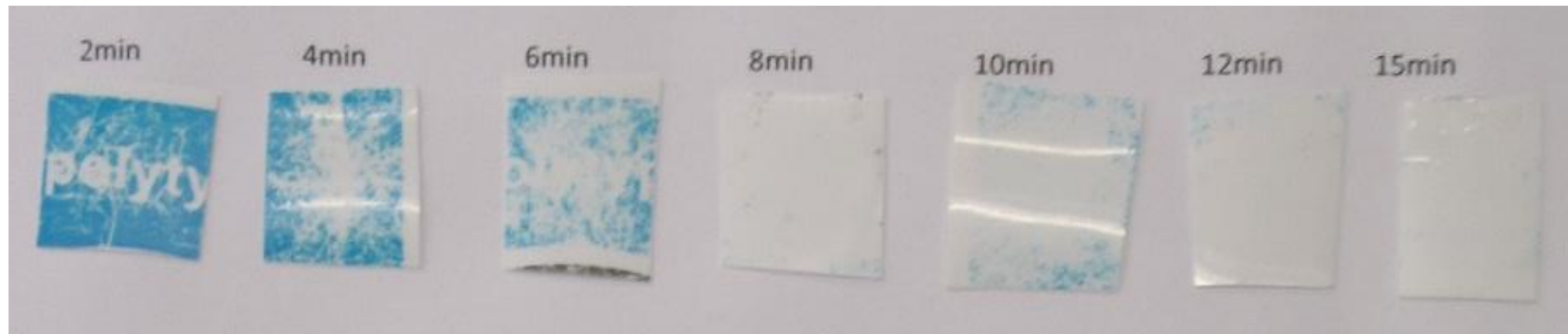
"EU" Deinking results



DIN SPEC 91496
Medium conditions



DIN SPEC 91496
Harsh conditions



⇒ **Deinking conditions are crucial**

⇒ **Different ink system required for EU but same concepts can be applied**

EXPERTLY DONE.

Summary



EU legislation at unknown speed



- + **The market for food packaging will significantly change in the next 6 years**
- + This might be the biggest change since the ITX crises
- + Not all UV inks in the market today will be fit for this change
- + New concepts and ink series/OPVs/... have to be established
- + **We are prepared!**

Thank You!