
EPR and Microplastics: What Printing Ink Manufacturers Need to Know



Rebecca Lipscomb • INX International • NAPIM 2026

How environmental responsibility has expanded

Public expectations and legal obligations frame today's packaging discussion

Pollution control

Air, water and waste

Environmental releases and waste management



Chemical oversight

Substances and their uses

Chemical assessment and restrictions



Product responsibility

Packaging and end of life

EPR and microplastics

● Active focus



What does this mean for printing inks and the packaging they become part of?

Consumers expect brands and packaging producers to lead

68 %

of U.S. respondents place responsibility on brand owners or packaging producers

36%

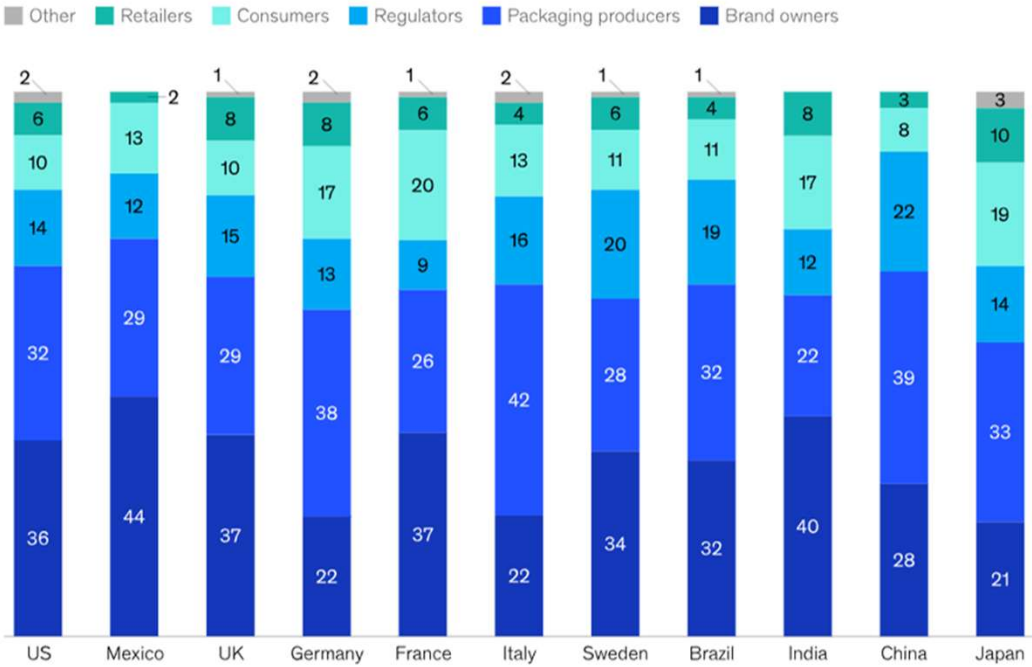
Brand owners

32%

Packaging producers

Food safety and shelf life rank as the two most important packaging elements globally; sustainability ranks 6th–7th.

Responsibility perception for sustainable packaging,¹% of respondents



Note: Figures may not sum to 100%, because of rounding.
¹Question: Who do you see as most responsible for sustainability in packaging? Results derived from the share of respondents who indicated each stakeholder as most responsible.
Source: McKinsey Packaging Survey, March 2025 (n = 11,136)

Source: McKinsey Packaging Survey, March 2025

Two brands scaled back packaging commitments

Brand A

Virgin-Plastic Reduction

2019 Baseline

Original Target

50%

by 2025

↓ Revised

Revised Target

30%

by 2026, then 40% by 2028

Target reduced by 20 pp · Deadline extended 1–3 years · Updated April 2024

Brand B

Recycled Content in Primary Packaging

Plastic, glass, aluminum

Original Target

50%

by 2030

↓ Revised

Revised Target

35–40%

by 2035

Target reduced by 10–15 pp · Deadline extended 5 years · Updated December 2024

The U.S. EPR Landscape Is Now Operational

One national market, seven different programs. One registration does not satisfy every state.

Enacted

7

States

- ME Maine
- OR Oregon
- CO Colorado
- CA California
- MN Minnesota
- MD Maryland
- WA Washington

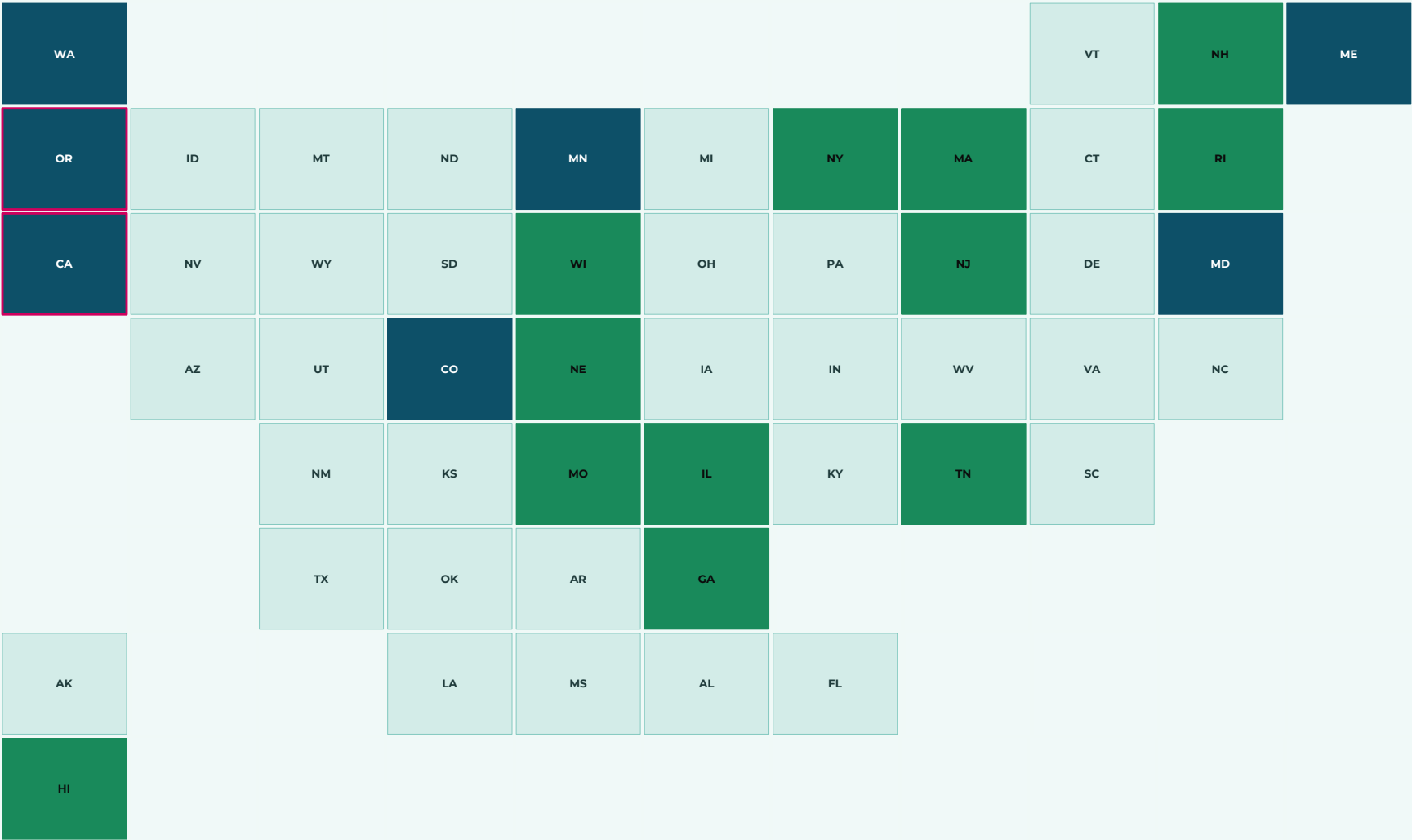
Common Program Structure — 5 Steps

- 1 Identify the Obligated Producer**
Determine which entity bears EPR responsibility under the state's definition
- 2 Join or Report Through a PRO**
Register with an approved Producer Responsibility Organization
- 3 Report Packaging Material and Weight**
Submit data on packaging categories and mass placed on the market
- 4 Pay Fees That Fund the Recycling System**
Per-pound fees assessed by material type fund state recycling infrastructure
- 5 Respond to Eco-Modulated Fee Signals**
LCA-documented design choices can earn credits against base fees



Definitions, exemptions, data fields, and timing vary by state. Since 2025, producers of covered packaging in Oregon have been required to register with an approved PRO, report supply data, and pay fees. Source: Oregon DEQ.

Where Every State Sits in the EPR Journey



Key — Where a State Sits

Enacted & Implementing

7 states

CA · CO · MD · ME*
MN · OR · WA

In Progress — 2026 Bill or Study Law

12 states

GA · HI · IL · MA · MO
NE · NH · NJ · NY · RI
TN · WI

No Packaging EPR Activity This Session

Remaining states

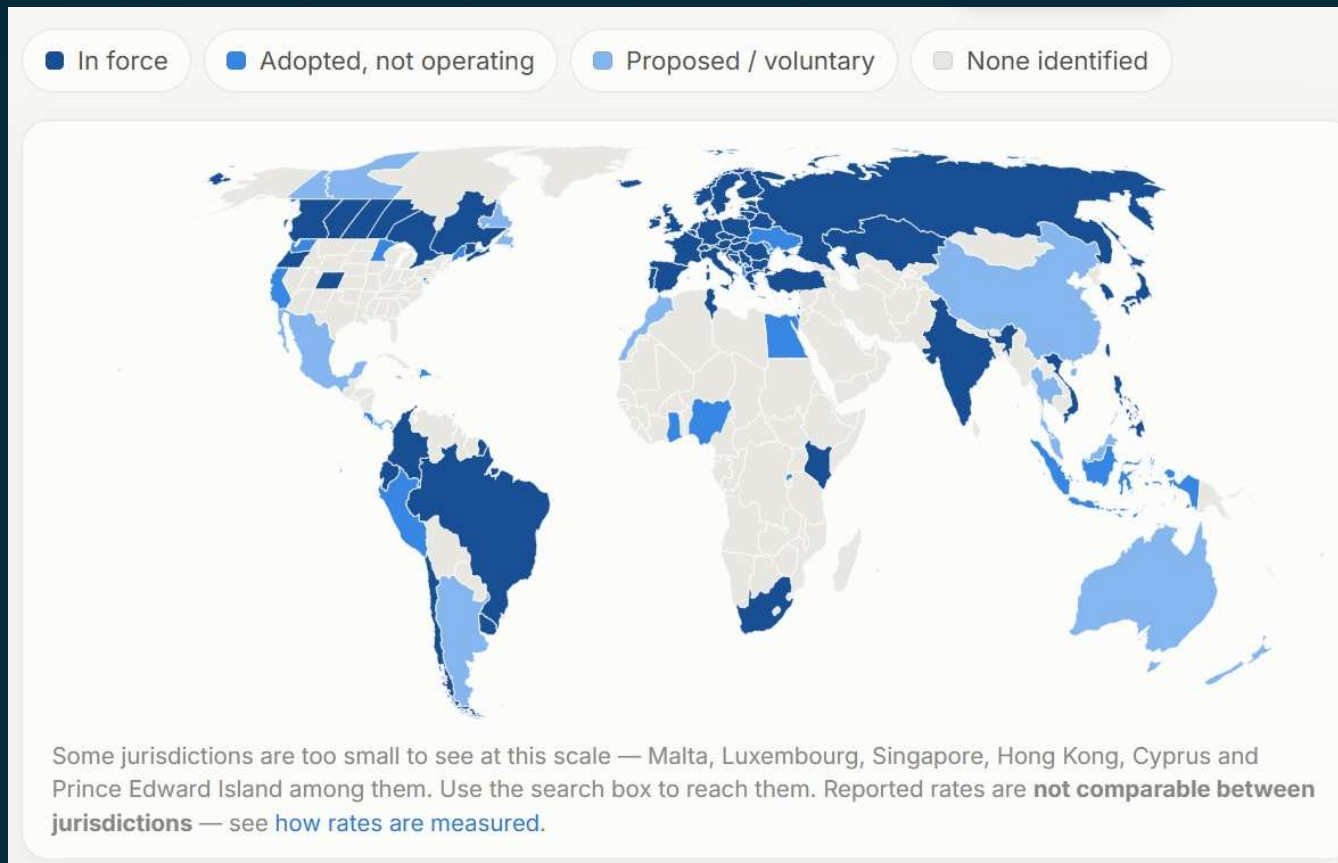
Under Federal Court Challenge

CA · OR

Federal Court Challenge (magenta border): CA SB 54: 17 states + NAW, PI pending | OR RMA: upheld Aug. 27, 2026

*** ME:** Enacted; no stewardship organization selected yet

Packaging EPR spans the globe



Requirements and implementation stages vary by jurisdiction.

Source: The Packaging EPR Library, Circular Innovation Hub, York University. Map supplied by presenter.

Straight from the Oregon Fee Schedule

Oregon 2026 CAA Producer Fee Schedule — excerpt (full schedule: 60 material categories)

Paper: the barrier layer is the fee
Paperboard: **8.0¢/lb**. Add a polycoat: **48.0¢/lb**. Use a paper laminate: **51.0¢/lb** — about six times the base rate for the same printed carton.

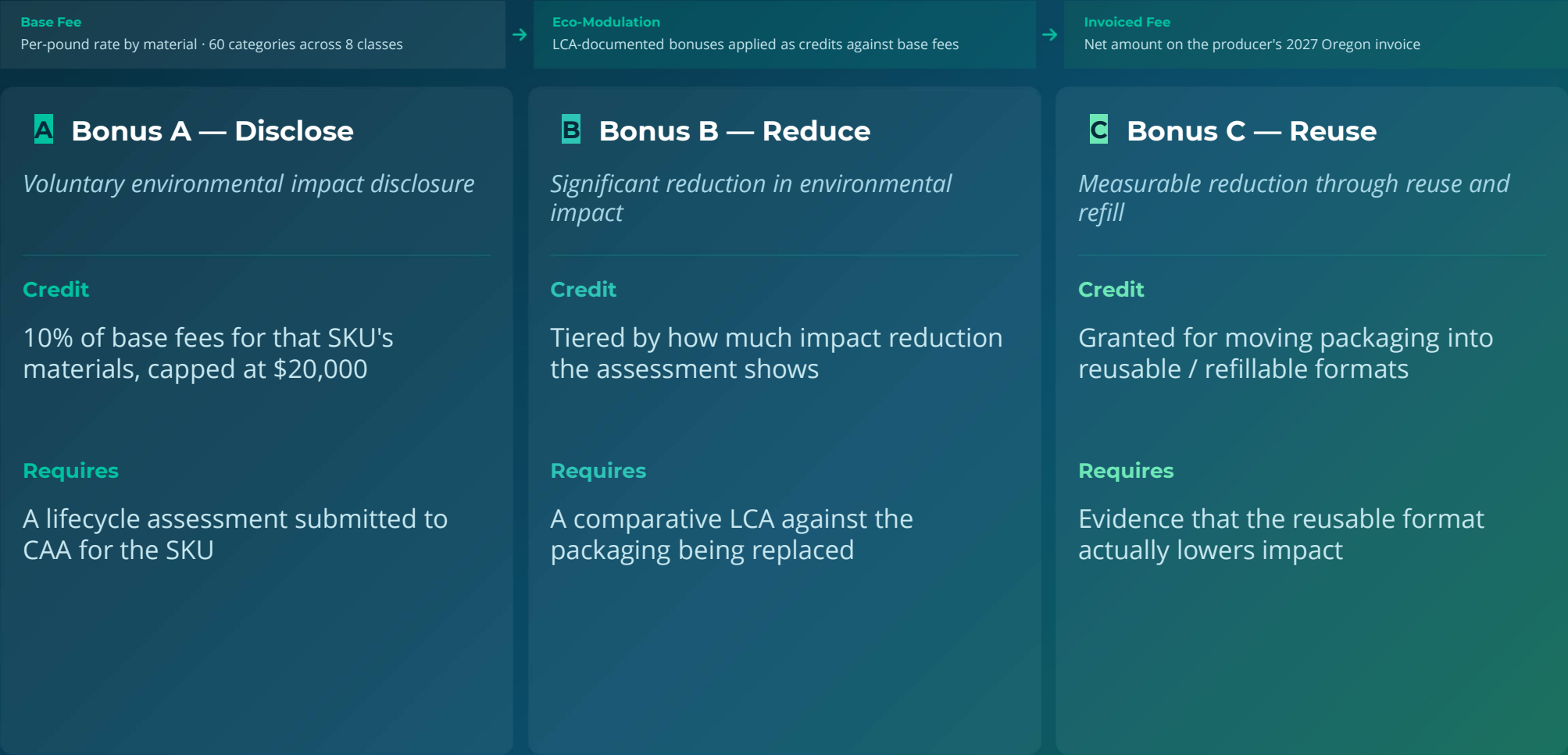
Plastic: mono-material wins, compostable does not
Mono-PE film: **43.0¢/lb**. A mixed laminate pouch: **102.0¢/lb** — and certified compostable flexible plastic carries the same **102.0¢/lb**.

Material Category	Covered Material Type	Base Fee Rate	SIM Portion	Final Fee Rate
Other	Printing and Writing Paper — Other Printed Materials	5.0 ¢/lb	0.0 ¢/lb	5.0 ¢/lb
Paper/Fiber	Paperboard	8.0 ¢/lb	0.0 ¢/lb	8.0 ¢/lb
Paper/Fiber	Polycoated Paperboard	48.0 ¢/lb	0.0 ¢/lb	48.0 ¢/lb
Paper/Fiber	Other Paper Laminates	51.0 ¢/lb	0.0 ¢/lb	51.0 ¢/lb
Plastic	Flexible Film — mono-material PE	43.0 ¢/lb	0.0 ¢/lb	43.0 ¢/lb
Plastic	PP Film and Mixed Laminates	102.0 ¢/lb	0.0 ¢/lb	102.0 ¢/lb
Plastic	Certified Compostable Flexible Plastic	102.0 ¢/lb	0.0 ¢/lb	102.0 ¢/lb
Glass	Glass Bottles and Jars & Other Containers	10.0 ¢/lb	0.0 ¢/lb	10.0 ¢/lb

Source: Circular Action Alliance, 2026 Oregon Producer Fee Schedule. Excerpt only.

What Eco-Modulation Actually Looks Like

Every bonus is earned with documentation, not intent — and the ink system is part of the material record.



EPRs that move into Chemical Regulation

Three proposals where packaging policy may reach beyond weight and recyclability into materials and substances.

New Jersey
S670 / A3725
Introduced · Jan. 13, 2026

What to Watch

- Additional restrictions under the Toxic Packaging Reduction Act
- Plastic-packaging reduction requirements

Potential Ink / Coating Impact

- Could increase questions about substances in pigments, additives, binders, and coatings
- Current substance list, thresholds, scope, and exemptions require confirmation

New York
S1464A / A1749A
Senate Rules · June 5, 2026

What to Watch

- Separate prohibition on certain toxic substances and materials
- Packaging reduction, recycled-content, and recyclability requirements in one EPR framework

Potential Ink / Coating Impact

- Chemical and material restrictions could trigger reformulation or additional supplier data requests
- Review the amended chemical list, thresholds, and exemptions before drawing product conclusions

Federal
H.R. 6053 / S. 3127
118th Congress · Not enacted

What to Watch

- Federal EPR framework paired with toxic-substance restrictions
- PFAS, orthophthalates, and certain bisphenols were specifically identified

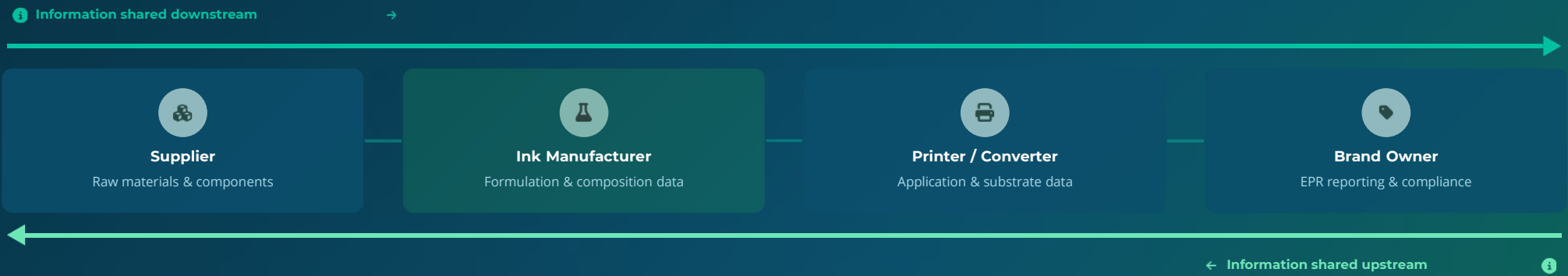
Potential Ink / Coating Impact

- Shows how future EPR proposals may combine packaging obligations with formulation restrictions
- A policy blueprint, not a current federal requirement

Information flows both ways through the supply chain

For EPR: what do customers need from us, and what do we need from them?

A familiar lesson from food-packaging collaboration



Primary Microplastics

Manufactured in small sizes for specific uses and added to products



Secondary Microplastics

Originates from breakdown of existing items or larger plastic products



Originally macro-plastics that degrade into tiny fragments via natural processes

Micro

Section Overview

Microplastics

What is in scope, and what does it mean for inks and coatings?

Primary Microplastics

Manufactured as small particles for a specific use.

Secondary Microplastics

Form as larger plastic items break down over time.

Microplastics: Start with the Definition

The regulated concept is narrower than the public use of the word. Assess all four factors together — polymer identity alone is not enough.

Two Critical Distinctions

POLYMER ≠ MICROPLASTIC

Physical state, size, and use determine scope. Polymer identity is a starting point, not a conclusion.

MICROPLASTIC ≠ PROHIBITED

Meeting the definition triggers assessment, not automatic prohibition. Derogations and use conditions apply.

Four-Factor Test

Assess All Four Together — No Single Factor Is Determinative

- 1 Physical Form**
Solid particle vs. dissolved, liquid, or film-forming material in the product
- 2 Particle Size**
Within the regulated dimensional range for the applicable jurisdiction
- 3 Concentration**
Present above de minimis thresholds in the mixture or article as placed on market
- 4 Function / Use**
The intentional functional role of the particle; determines derogation eligibility

i *Meeting the definition triggers assessment — derogations for industrial use, film-forming, and solid-matrix articles may apply.*

Microplastics: EU law and framework

REACH Annex XVII, Entry 78 governs synthetic polymer microparticles

EU REACH Restriction

Regulation (EU) 2023/2055

Applies from 17 October 2023

Scope

Restricts synthetic polymer microparticles supplied alone or intentionally added to mixtures.

Uses

Industrial-site use and qualifying changes during end use may allow derogations.

Duties

- Document scope and the applicable derogation.
- Provide required use/disposal information and assess emissions reporting.

ECHA Reporting

Derogated Uses

 A derogation can still carry information and reporting duties.

From 31 May 2027

Annual reports for other industrial users and covered suppliers, reporting the prior year's emissions.

2026 Amendment

Regulation (EU) 2026/1168 narrows the solid-matrix derogation from 22 June 2028. Review short-duration uses.

Microplastics: New Jersey and Illinois to Watch

State proposals and monitoring priorities for packaging

New Jersey

A5452 — nondurable food packaging and food service ware

- Year 1** Label disclosure of intentionally added microplastics or potential secondary microplastics.
- Year 2** Expanded disclosure of potential synthetic polymer microparticle generation.
- Year 3** Proposed sale ban on food ware containing intentionally added microplastics or capable of generating secondary microplastics.

New Jersey timing note: no action expected until the next legislative year.

Illinois

State to Watch

- Act** Public Act 103-0093 requires public information on aquatic and human-health impacts.
- Illinois EPA published a 2024 report on microplastics and regulatory actions.
- Packaging breakdown is a source of secondary microplastics.

NJ sequence is proposed. Illinois source: Illinois EPA, Microplastics page and 2024 report. Details in notes.

Where Microplastics Questions May Arise in Printing Ink

A polymer name does not answer the regulatory question. Start with the material's form and behavior in the product.

1 Look more closely

- Waxes and polymer powders
- Matting and effect particles
- Polymer-coated or encapsulated pigments
- Toner particles

These examples warrant closer examination, not automatic classification.

2 Ask what form it takes

- Solid particle or dissolved?
- Within the applicable size range?
- Soluble or degradable?
- Film-forming during use?

Physical form and behavior can matter as much as polymer identity.

3 Then assess the use

- Concentration in the ink
- Function in the formulation
- Industrial-use derogation
- Condition in the finished article

A derogation may change the obligation without changing the definition.

? The question is not 'Does it contain a polymer?' It is 'Does the material meet the applicable definition in this form and use?'

The Regulatory Answer Can Change as the Ink Is Used

Assessment depends on the material's condition at the relevant stage, not merely its chemical identity.

As Supplied in Wet Ink



- May exist as a solid polymer particle
- Form, size, concentration and function matter
- Industrial-use and reporting provisions may apply

PRINTING

DRYING

CURING



FORM AND
BEHAVIOR
CHANGE

*Regulatory scope must be
assessed at the relevant
stage.*

In the Finished Printed Article



- Ink has dried or cured
- Material may be embedded in a solid matrix
- The finished article requires a separate scope assessment

 **Do not carry a wet-ink classification automatically into the finished printed article.**

What Ink Manufacturers Should Understand Now

Start with the applicable regulatory definition. Assess the specific question. Avoid conclusions that go beyond what the available information supports.

Key Principles

- 1 Start with the applicable legal definition — not the generic word
- 2 Identify the jurisdiction, product scope, and relevant regulatory provision
- 3 Determine whether an exemption or derogation applies to the specific use
- 4 Distinguish regulatory obligations from customer information requests
- 5 Assess what information is available and appropriate to the regulatory question
- 6 Avoid broad claims that exceed what the available information supports

Key Dates

- **Aug 2026**
EU PPWR (Reg. 2025/40) applies — conformity docs live
- **Feb 2027**
First EU digital product passport (batteries) — ESPR groups follow
- **May 2027**
First EU REACH release reporting deadline (May 31)
- **Aug 2027**
IEPA reporting deadline — Illinois HB 2516
- **Jun 2028**
EU solid-matrix derogation changes (June 22)
- **2030**
PPWR recyclability grades, recycled content and design rules apply

Cross-Functional Ownership

Regulatory compliance for microplastics and EPR spans the entire organization. Each function carries responsibility.

Appendix: Chemical-restriction watchlist

U.S. packaging, inks and coatings • Research snapshot: October 5, 2026

Bill / Jurisdiction	Chemicals in Scope	Proposed Restriction / Relevance	Latest Located Status
S670 / A3725 New Jersey [1]	Additional substances under the Toxic Packaging Reduction Act	Would expand packaging restrictions. Carbon-black wording and ink exemptions require confirmation.	In committee · Jan. 13, 2026
S4656 New Jersey [2]	Specified toxic substances	Would prohibit specified substances in plastic packaging. Introduced October 1, 2026.	Senate Environment and Energy
S1464A / A1749A New York [3]	Broad packaging chemical and material restrictions	Packaging Reduction and Recycling Infrastructure Act. Check the amended chemical list and exemptions.	Senate Rules · June 5, 2026
S3034; H4870 / H5598 Massachusetts [4]	Intentionally added PFAS	Food-packaging and consumer-product phaseouts. H5598 is a pending new draft of H4870.	Ways and Means · House draft pending
HB272 Ohio [5]	Intentionally added PFAS	Restrictions on food packaging and other specified products, plus manufacturer reporting.	House General Government
H.R.9231 Federal [6]	PFAS, ortho-phthalates, bisphenols, styrene polymers and others	Would deem listed substances unsafe for food-contact uses, including relevant packaging/coatings.	Introduced · June 9, 2026
H.R.9593 / S.5516 Federal [7]	Intentionally added PFAS	Would prohibit covered food packaging in interstate commerce. House and Senate dates differ.	Introduced · 119th Congress
S.4153 / H.R.8016 Federal [8]	Nonessential PFAS uses; PFAS releases	Would phase out nonessential PFAS production/use and environmental releases.	Introduced · March 19, 2026

Selected pending proposals identified in this review, not an exhaustive 50-state inventory. Sources [1–8] and limitations in notes.

References

Oregon — Circular Action Alliance <https://circularactionalliance.org/oregon>

Companies Accused of Greenwashing <https://truthinadvertising.org/articles/companies-accused-greenwashing/>

What to Know About Extended Producer Responsibility (EPR) | EcoEnclose
<https://www.ecoenclose.com/resources/epr-packaging-requirements>

The Packaging EPR Library — The Packaging EPR Library <https://eprlibrary.netlify.app/>