Designing In-Mold Decorations for Recycling

APR Member Sampling

RECLAIMERS/RECYCLERS

AFFILIATES

View all APR Members »

Together, APR members span the entire value chain and shape the future of our industry.

- **Reclaimers/Recyclers**
- Brand Owners
- Retailers
- Converters
- Equipment Manufacturers
- Testing Laboratories
- Certifiers
- Label & Ink Manufacturers
- Resin Manufacturers
- Additives Manufacturers
- Researchers
- Technical Consultants
- And more!

Is my packaging recyclable?

The **APR Design® Guide** is your tool to ensure a package design is compatible with the North American recycling system.

To be considered recyclable*, companies must consider all the following criteria:

- Design for recyclability
- Consumer access to recycling
- Acceptance of a package in the recycling stream
- End markets for products made from the recycled plastic

* For unqualified claims in the U.S., refer to FTC Green Guides

Attachments

Color

Shape

Size

Adhesive

Label

Inks

Polymer

Layers

Additives

The APR Design® Guide views a package as a compilation of design features

APR

Each design feature is classified into a recyclability category

- ● APR Design® Preferred

- ● Detrimental to Recycling

- ● Renders the Package Non-Recyclable
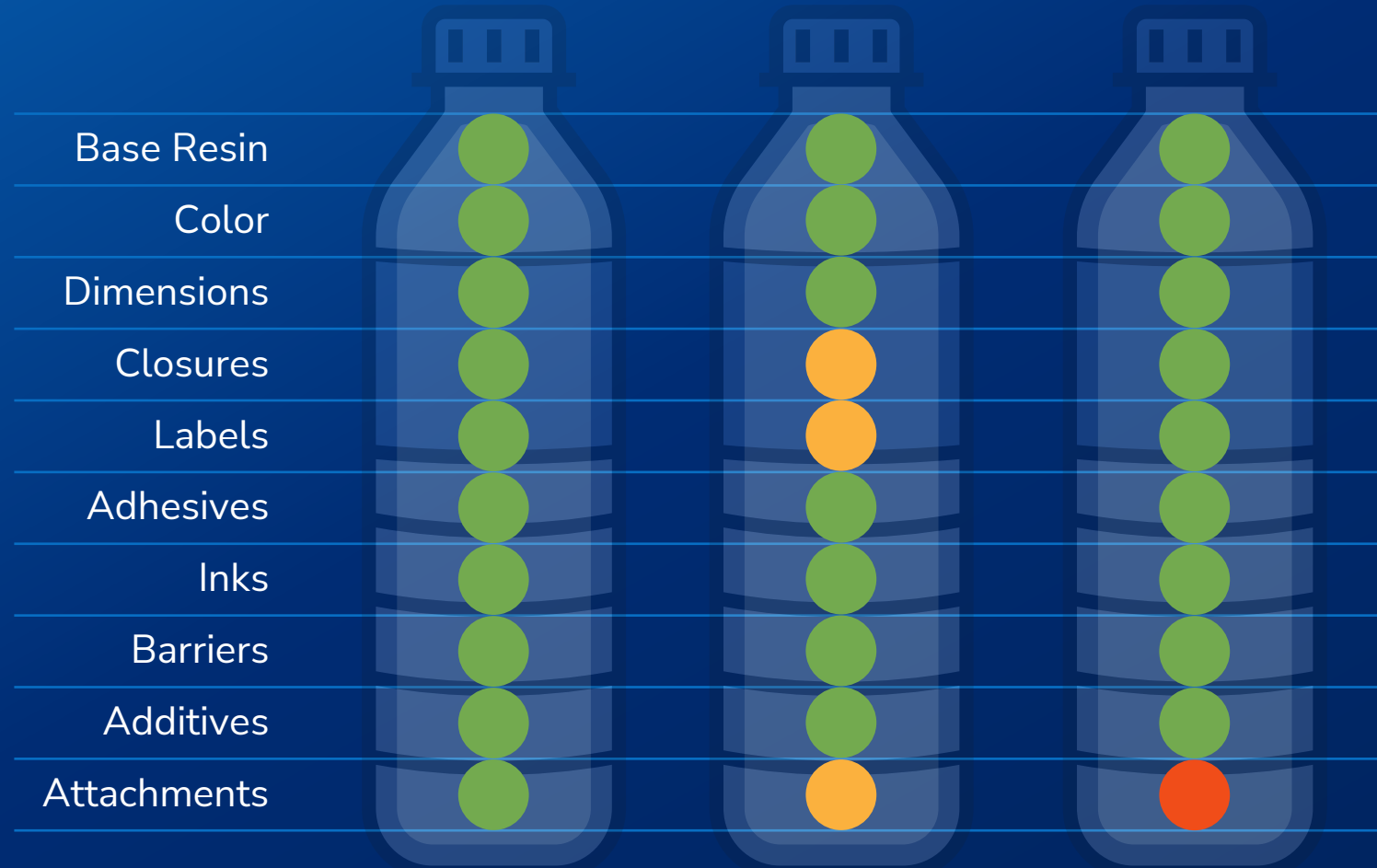
- ● Requires Testing

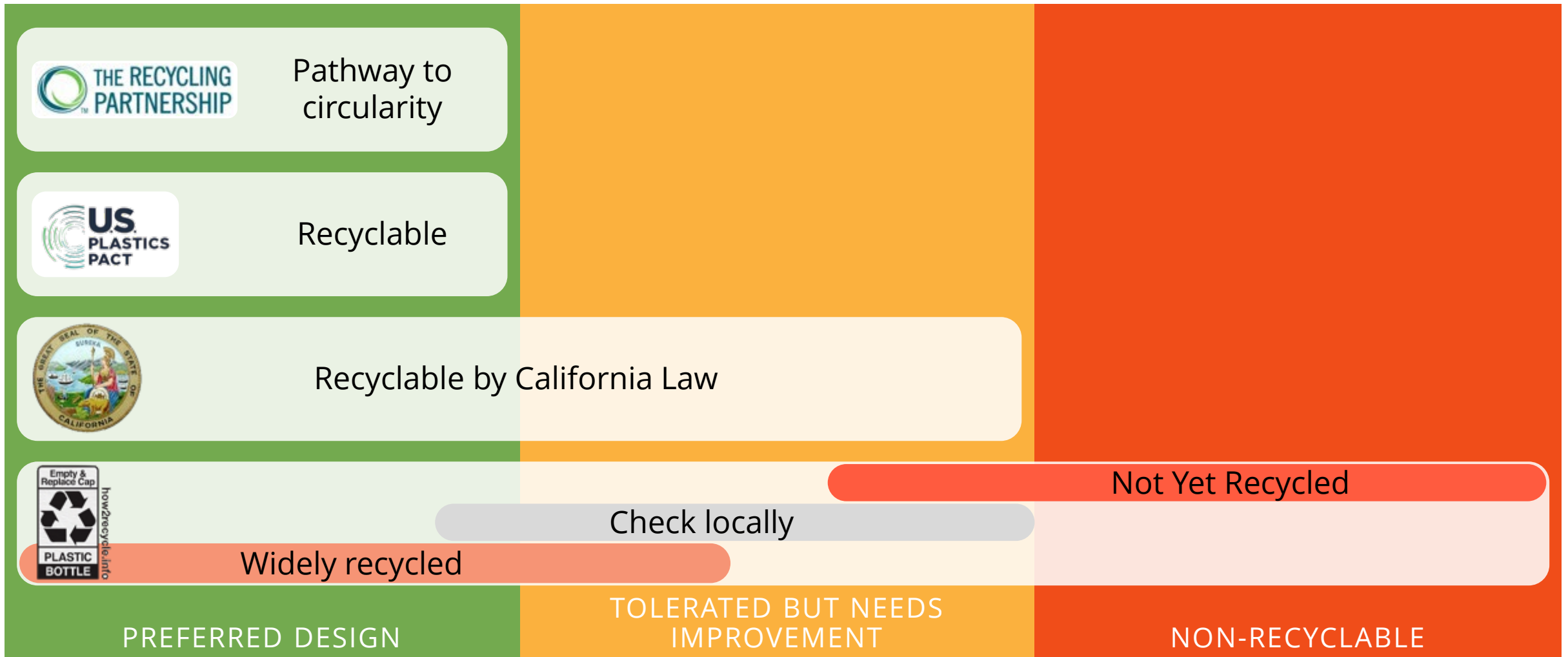# Design Features Drive Whole Package Assessment

Design Features

Design features are classified according to the APR Recyclability Categories or test results where testing is required.

- Base Resin
- Color
- Dimensions
- Closures
- Labels
- Adhesives
- Inks
- Barriers
- Additives
- Attachments

Whole Package Assessment

✔ Preferred Design for Recycling

⚠ Tolerated but Needs Improvement

✖ Non-Recyclable

Alignment with Other Organizations

2024 Policy OVERVIEW TO DATE

- **General:** 450+ bills related to recycling and plastics introduced in US states in 2024

- **EPR:** Minnesota becomes 5th state to adopt EPR for packaging

- **PFAS:** CA and others expanding PFAS bans to all products

- **Federal:** Congressional hearings continue; recycling bills stalled in House

- **Global:** International negotiations continue; EU finalizes packaging regulations; Canada finalizes plastics registry

Key Design Considerations for Labels/In-Mold Decorations

Key Areas of Design Consideration

1. Materials

2. Metallic Components

3. Surface Area and Color

Material Choice

- *Label must either completely **liberate OR be miscible** with the base resin stream*
  - *Does the adhesive liberate in wash conditions?*
  - *Does the ink liberate or adhere to the label?*
  - *Does the ink discolor the base resin (PET/Natural HDPE)?*
  - *What is the density of the Printed label?*

- *Does the material impact the wash water?*
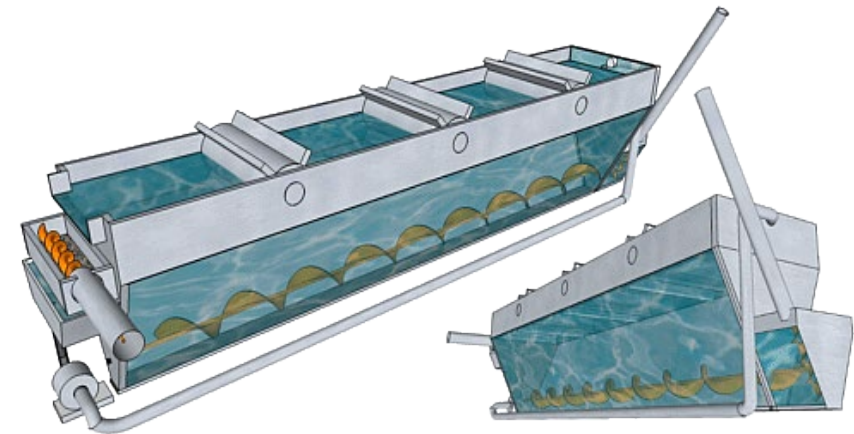
Surface Area

- *Label coverages are limited to 75% >550ml or 55% <550ml without testing**

  - *Container must be readable by NIR*
  - *Labels intended for Natural HDPE and PET substrates should sort as "Clear" (testing required regardless of ink coverage)*
  - **Current Guidance was intended for cylindrical containers*

Metallization

- *Solid foils are generally not recyclable*

- *Transfer products, inks, etc. can be preferred if Spherical Equivalent is 12mm or less (16mm for PET containers)*

Additional Considerations

- *Mono-material packaging can reduce GHG emissions and increase yield and quality in some applications.*
  - *Labels are often removed from recycling streams by de-labelers and/or elutriation.*

- *RFID/Smart Labeling brings additional concerns*

APR Design® for Recyclability Two-Day Training & Tours

Dallas, Texas | October 8-9, 2024

Space is limited!
Register here:

Learn *why* and *how* to design for recyclability in this two-day interactive session, which includes:

- Training sessions led by APR's COO and recycling expert, Curt Cozart

- Guided tours of a MRF and Recycler

- Networking reception

Develop your recycling expertise and bring back the insights your company needs to design better packaging.

ASSOCIATION OF PLASTIC RECYCLERS

The Benefits of Recognition

Packaging & Component Manufacturers

Provides credibility

Rewards innovation

Sales Lead Generation

Brands & Retailers

Saves time, effort and resources

Reduces risk in recycling claims

Makes it easier to meet industry design standards

Meet California legislative requirements

Open Discussion

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