APR Sorting Potential Protocols:
Identifying Packages that Get Lost in the Recycling Process
Today’s Presenters

Curt Cozart, President
Commonsense Solutions

Kara Pochiro, Communications Director
Association of Plastic Recyclers
Today’s Session...

Brief Overview of APR
APR’s Definition of Recyclability
APR’s Recyclability Categories
Examples of Problem Packages
Sortation Process
Sorting Potential Protocols
Questions
Who is APR?

- International trade association
- The Voice of Plastics Recycling®
- Companies committed to the success of plastics recycling
APR Primary Goals

Increase Supply
Enhance Quality
Expand Demand
Communicate Value
60% Access to Recycling
Sorting Systems
- Automated MRF
- Deposit
- Grocery Store Rigid
- Film Collection
Recycling Process
Plastic Reclaimer
Identifiable New Product
Manufacturer

Aligned with FTC
Post industrial and dedicated systems (not in scope)
APR’s Recyclability Categories
*Assess Design Features / Packaging Components*

APR Design® Guide Preferred
Detrimental to Recycling
Renders Package Non-Recyclable per APR Definition
Requires Testing
APR’s Recyclability Categories

Some packaging features or components were categorized as detrimental or non-recyclable in the past, but are now “Require Testing” to determine recyclability.
Dark Packaging

Near Infrared (NIR) sortation can not detect
Small Packaging
Falls through screens
Metal Components

Separate from other plastic packaging by magnets or metal detectors
The MRF Sorting Processes

Plastics
Reclaimers use the same process

Sorting Potential Protocols

Guidelines for package designers to create packaging that will pass through the sorting process

- Size
- NIR sorting
- Metal removal stages
- Shape

* Sorting is only PART of the requirement for APR’s definition of recyclability.*
Compression Practice

Simulates trash truck
NIR Test

- Compares sorting efficiency of 20 test articles to base line of a control mix.
- Applicable to:
  - dark items
  - full body shrink labels
Size Test

• Screen – average of 4 most common manufacturers
• 20 Articles – 10 rotations  30x
• Applicable to items with 2 sides < 2”
Metals Tests

- Magnet test
- Metal detector limit test
- Applicable to: metal, metalized and metallic inks
2D - 3D Test

• Coming in 2018
• Applicable to thin items
### Finding the Test Protocols

**Plasticsrecycling.org**
- Design Guide
- Test Methods

<table>
<thead>
<tr>
<th>Type</th>
<th>Category</th>
<th>Code</th>
<th>New Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>HDPE</td>
<td>Application</td>
<td>HDPE-A-01</td>
<td>HDPE Bottle Application Test</td>
</tr>
<tr>
<td>HDPE</td>
<td>Critical</td>
<td>HDPE-CG-01</td>
<td>HDPE Critical Guidance</td>
</tr>
<tr>
<td>HDPE</td>
<td>Critical</td>
<td>HDPE-CG-02</td>
<td>Closure Test</td>
</tr>
<tr>
<td>HDPE</td>
<td>Screening</td>
<td>HDPE-S-01</td>
<td>HDPE Bleeding Label Test</td>
</tr>
<tr>
<td>HDPE</td>
<td>Screening</td>
<td>HDPE-S-02</td>
<td>HDPE Flake Wash Test</td>
</tr>
<tr>
<td>HDPE</td>
<td>Screening</td>
<td>HDPE-S-03</td>
<td>HDPE/PP Degradable Additives Test</td>
</tr>
<tr>
<td>PE Film</td>
<td>Benchmark</td>
<td>Film-B-01</td>
<td>Polyethylene (PE) Store Drop-off Films Benchmark Test</td>
</tr>
<tr>
<td>PET</td>
<td>Applications</td>
<td>PET-A-01</td>
<td>PET Bottle Applications Test</td>
</tr>
<tr>
<td>PET</td>
<td>Benchmark</td>
<td>PET-B-01</td>
<td>Flake to Plaque Bleeding Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Benchmark</td>
<td>PET-B-02</td>
<td>Flake to Plaque Thermof orm Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Critical</td>
<td>PET-CG-01</td>
<td>PET Critical Guidance</td>
</tr>
<tr>
<td>PET</td>
<td>Critical</td>
<td>PET-CG-02</td>
<td>Closure Test</td>
</tr>
<tr>
<td>PET</td>
<td>Critical</td>
<td>PET-CG-03</td>
<td>Sleeve Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Critical</td>
<td>PET-CG-04</td>
<td>Pressure Sensitive Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Critical</td>
<td>PET-CG-05</td>
<td>Direct Print Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Reclaimers</td>
<td>PET-R-01</td>
<td>PET Oven Bake Test</td>
</tr>
<tr>
<td>PET</td>
<td>Reclaimers</td>
<td>PET-R-02</td>
<td>PET Barrier Test</td>
</tr>
<tr>
<td>PET</td>
<td>Reclaimers</td>
<td>PET-R-03</td>
<td>PET Dissolution Test</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-01</td>
<td>Bleeding Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-02</td>
<td>HDPE Flake Wash Test</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-03</td>
<td>Quick Test for Color</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-04</td>
<td>Thermof orm Label Test</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-05</td>
<td>Label, Closures and Attachments Floatability Test</td>
</tr>
<tr>
<td>PET</td>
<td>Screening</td>
<td>PET-S-06</td>
<td>HDPE Degradable Additives Test</td>
</tr>
<tr>
<td>PP</td>
<td>Benchmark</td>
<td>PP-B-01</td>
<td>PP Benchmark Test</td>
</tr>
<tr>
<td>PP</td>
<td>Critical</td>
<td>PP-CG-01</td>
<td>PP Critical Guidance</td>
</tr>
<tr>
<td>Sorting</td>
<td>Benchmark</td>
<td>Sort-B-01</td>
<td>Test Method to Evaluate the Near Infrared Sorting Potential of a Whole Plastic Article</td>
</tr>
<tr>
<td>Sorting</td>
<td>Benchmark</td>
<td>Sort-B-02</td>
<td>Evaluation of Size Sorting Potential for Articles with at least 2 Dimensions Less than 2 Inches</td>
</tr>
<tr>
<td>Sorting</td>
<td>Practice</td>
<td>Sort-PR-01</td>
<td>A Practice for Compressing Plastic Articles for Laboratory Evaluation</td>
</tr>
</tbody>
</table>
Questions?

kara@plasticsrecycling.org
ccozart@c-sense-solutions.com

www.PlasticsRecycling.org