

# Navigating the Recycling System

Date: June 11, 2018

Name: Rachel, Product Developer for private label beverage at major US retailer

Packaging Material: Clear PET bottle, full body shrink sleeve label and PP cap

Collection System: Curbside recycling

Elements	Will Successfully Navigate?	Notes
<b>End Markets</b>		
<b>Supply/Demand</b> – Is this material being consistently used in the manufacturing of new products?		I know that PET is a widely recycled material in the US and regularly goes back into drink bottles, textiles, and more. The APR Design Guide says that clear unpigmented PET has the highest value in the recycling stream since it has the widest variety of end-use applications.
<b>Contamination</b> – Are there contaminants in the material that remain after reprocessing that hinder the end application?		The APR Design Guide says that some additives to PET bottles can be detrimental to recycling if they can't be removed in the recycling process. Some could negatively impact the end value of the PET. I need to learn whether our bottle has any additives.
<b>Profitability</b> – Does it have a positive profitability analysis?		I think so, but am not sure. Clear PET is the most valuable plastic in the recycling stream, but I need to make sure that we don't have any detrimental additives in it that could impact the profitability of the PET.
<b>Reprocessing</b>		
<b>Design</b> – Are there design flaws that prevent reprocessing and recoverability?		Good news - polypropylene closures on PET containers are preferred for recyclers, according to the APR Design Guide. But, the label requires testing because it may contaminate the PET. And again, need to check on whether we use any additives.
<b>Contamination</b> – Does the material cause harm or contamination to other materials?		I don't believe so, but will wait for more information on how our label performs in testing to make an assessment here.
<b>Infrastructure</b> – Is an investment required to reprocess the material at scale? Are there markets in different geographic areas?		Based on my knowledge of plastics recycling, PET recycling is mainstream and robust. This is not a niche material where I believe this line of thought may apply.

If you have questions about how your material performs in relation to any of the squares, feel free to reach out to ASTRX by contacting Dylan de Thomas or Trina Matta at [info@astrx.org](mailto:info@astrx.org).

<b>Sortation</b>		
<b>Design</b> - Are there design flaws that impact sortation? Does its form enable it to be properly and consistently sorted (size, flatness, 3D, labeling, etc.)?		I see in the APR Design Guide under information about full body shrink sleeves, that sorting can be compromised.
<b>Specifications</b> - Do new bale specifications need to be developed? Do existing bale specifications allow for inclusion of the material?		Yes, MRFs have PET bottle bales. I learned this from APR's website - especially their model bale specifications that teach me what plastics reproprocessors are looking for when they buy bales from the MRF.
<b>Contamination</b> - Can the products damage the recovery of the recovery of other materials? Are there contaminants (moisture, food, etc.) that impact sortation?		I will wait to learn more about how our full body shrink sleeve label performs in testing and then investigate if this is a separate consideration to give my attention to. Additionally, since our bottle contains a plant milk, we will use the How2Recycle label to tell consumers to Empty & Replace Cap so that the liquid is not placed in the recycling.
<b>Infrastructure</b> - Is an investment required to sort the material?		No, an infrastructure already exists to sort PET bottles.
<b>Education</b> - Do MRFs know that it is possible to sort the material? Are pick line workers trained to identify the material?		Bottles seem classic for MRFs to recycle, they are such high volume of the recycling stream. I think we are OK here.
<b>Collection</b>		
<b>Contamination</b> - Does this material hurt the recyclability of other materials?		Not that I am aware. Quick research online didn't reveal any hints that this could be a problem for PET bottles.
<b>Infrastructure</b> - Is an investment required to collect the material? Are there collection carts or bins? Vehicles?		The Recycling Partnership's State of Curbside Recycling Report showed how many communities need carts and more vehicles in order for the quality of collection to be improved. I want to talk to my colleagues further about how we can support a grant to help a community get higher quality collection so we can increase the amount of bottles that get recycled.
<b>Education</b> - Do local governments know all the materials that their MRF will accept?		Yes. PET bottles included in many recycling programs (see consumer engagement notes). For example, on my curbside recycling cart at home, there is a picture of a plastic bottle that tells me I can recycle it.
<b>Consumer Engagement</b>		
<b>Design</b> - Does it have a How2Recycle® label to describe recyclability and any actions consumers need to take to recycle it, such as removing components or returning to drop-off locations?		We are already a member of How2Recycle. So, I will get in touch with the How2Recycle team to get a label for us to apply to this package before it goes into the marketplace.
<b>Contamination</b> - Do consumers know how to prepare their materials for recycling (no food residue)?		Yes. The How2Recycle label will instruct, 'Empty & Replace Cap.' If we learn that our full body shrink sleeve causes problems and needs to be removed by the consumer, then the How2Recycle label will instruct that.
<b>Education</b> - Do consumers know the material is accepted? Do they know how to recycle it (via curbside, or community or Store Drop-off)?		The SPC Centralized Availability of Recycling Study answers what packaging types communities tell their residents they can recycle. PET bottles have over 60% availability to recycling via curbside and drop-off in the US. The How2Recycle label on the bottle will remind them to recycle it.
<b>Comments:</b>		