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April, 2018 Sorting Potential Protocol Webinar – Questions and Answers

The discussion points below represent actual questions and answers from the APR Sorting Potential Protocol Webinar presented in April, 2018.

1. Do you have any results to share yet for some packaging?

While developing the tests APR conducted sample trials to insure that the tests are representative of the field process. Trials tended to focus on the items that fall closely on one side or the other of the test limit. APR identified certain items of concern, and for brand-specific items will encourage the brands to run the tests with an authorized laboratory. For instance, the trials revealed that typical sized metal sprayer springs and check valves can pass the metal protocols. This is in line with the feedback we've received from the plastics recyclers.

2. Can you please explain more about the NIR test, specifically the 20 test bottles and the baseline mix. What is the baseline mix and how is the test carried out?

The baseline mix is a mix of plastic bottles in percentages representing the typical numbers seen in the container line portion of the MRF process. The optical sorting companies would keep this known mix at their facility. To verify how the sorting machine is working at the time of the test, the optical sorter is set to identify and remove the polymer from which the candidate article is made but sorts the baseline mix only. Testers then compare the number of items that were actually removed from the baseline mix to the number that should have been removed to establish a sorting baseline percentage. The 20 test bottles representing the candidate articles are then added to the mix and run through the sorter. The number of candidate articles actually removed is compared to the number of candidate articles that should have been removed (20) to establish the candidate article sorting efficiency. The two sorting efficiencies are then compared.

3. Are there design plans available to be able to build a compression practice machine?

Yes, the plans may be found in the Appendix of APR practice document SORT-PR-01, A Practice for Compressing Plastic Articles for Laboratory Evaluation.

4. Does this sorting potential testing replace something like a MRF flow study or is this just the first step to see how something actually moves in a real facility?

A MRF flow study is a snapshot of a particular operation running at a particular time. In order to get an indication of what happens on average, you would have to do several MRF flow studies. The sorting potential protocols are designed to be representative of the average. Therefore, it is unlikely that any one particular MRF flow study would yield the same result but the average of several, carefully picked ones would.

5. What's the protocol for recyclability-- is it up to a brand to prove that a new package is recyclable or industry to show that a new package ISN'T recyclable. If it's the second, what recourse does APR have to get a non-recyclable package changed?

APR's intent is to get in front of the process and be proactive rather than reactive. Since more companies are using the SPC's How2Recycle label and SPC refers to the APR Design® Guide for Plastics Recyclability to issue it, APR has some amount of influence. The test methods provided by APR form the data foundation for the Design Guide. Furthermore, if a package is identified by the recycling community as problematic, APR can issue a "problem bottle letter" to that company explaining the issues. If the company is making false recyclability claims that are against the law in a particular state, or violate the Federal FTC "Green Guides", the proper authorities can also be notified. Some states have taken action against these types of claims.

6. Due to the Chinese National Sword initiative, MRFs are starting to add an optical sorter on the fiber line to re-route non-fiber to the container line so the 2D/3D test should not be a knock-out for recycling.

Absolutely. A lot of machines are being installed for this application. The question will be if the items picked from the fiber stream are more commonly sent to the container line or the residual stream. As you correctly identified, the primary purpose is to clean up the fiber stream, not capture plastic. This is an important distinction. Many of the items pulled are plastic film and they don't necessarily want those items in the container line. The 2d-3d protocol results will represent what is happening in the field.

7. These tests can be conducted on a particular plastic package either in house or by a consulting/testing firm, right?

Right. However, most brands will use the consulting/testing firm since they have the expertise and equipment.

8. Who do these tests pertain to? Who would use them?

The primary audience is the packaging design engineer at a brand company. This helps them determine if their design will be sorted correctly in the recycling process. If the tests reveal problems, hopefully designs will be changed before these packages are released in the marketplace.

9. Do you provide guidance to manufacturers that help them use packaging components that are easily recyclable?

Yes, that is exactly what the APR Design® Guide for Plastics Recyclability and the Design Guide Training Program are all about. That's also the focus of the tests we discussed since we are providing clear guidance on how to evaluate questionable items.