Debunked Plastic Myths

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What's your impression of plastic? Is it better or worse than other forms of packaging (such as glass, metal and paper), and how did you form this opinion?

There is a lot of information distributed throughout the green world about plastic, and not much of it is positive. Before you write this material out of your life, let's evaluate a few of the common plastic statements to see how true they really are.

Myth #1: Resin code determines all

PET (plastic #1) or HDPE (plastic #2) often comprises plastic bottles, while PP (plastic #5) often makes up the caps. So, what's the big deal if the bottle is a #1 and the cap is a #5? They're both plastic right? Photo: Amanda Wills, Earth911.com

Foundation: In 1988, the Society of the Plastics Industry (SPI) developed a resin identification code to provide manufacturers a simple way of conveying what resin a plastic product was made from. The code was applied primarily to six different resins of plastic:

1. Polyethylene terephthalate (PETE)

2. High density polyethylene (HDPE)

3. Polyvinyl chloride (PVC)

4. Low density polyethylene (LDPE)

5. Polypropylene (PP)

6. Polystyrene (PS)

Each resin can be used to produce a variety of products, so without a code system, there would be no way of telling whether your plastic bottle was made of PETE or HDPE. This identification is also important during plastic recycling, since different plastic resins can't be recycled in the same stream.

Rumor has it: When plastics are grouped by resin, it's easy for one report or study to affect an entire group. For instance, challenges involving the disposal of expanded polystyrene (which you may know by the Dow trademarked brand Styrofoam) may have lead you to think that all polystyrene is bad for the environment. Or perhaps you saw a news report about the health impact of Bisphenol A in certain water bottles and assumed this additive is used on all products with that plastic resin.

The truth: Put simply, plastic resin codes should not be used to provide guidance on the safety or intended use of a product, or a guarantee that a product is included in your local recycling program. In addition, many programs do not accept all forms of a certain resin (such as plastic bags made of HDPE). Luckily, most haulers and recycling centers will give you specific details on what is accepted, such as "narrow-necked bottles" and "rigid plastics."

Myth #2: Only plastics #1 and #2 are recyclable

Foundation: PETE and HDPE are the most commonly used resins of plastic to make bottles, and they are also the most commonly accepted forms of plastic for recycling. In Earth911's Local Recycling Directory, there are more than four times as many listings that accept plastic #1 than those that take plastic #5. Plastics #3-7 are also where you will find many of the non-bottle plastics, which typically don't come with a recycling symbol on them.

Rumor has it: One of the biggest supporters of this myth is the curbside recycling programs we all know and love. These programs are designed to make money, and PETE and HDPE provide the highest collection value. If you use Scrapindex.com to find current rates for recyclable materials, PETE and HDPE are the only plastics included in the curbside section, and the price will drop if you have a load of plastic with other resins mixed in. But that doesn't mean other plastics have no recycling market.

The truth: According to Keith Christman, managing director of plastics markets for the American Chemistry Council, municipal recycling programs are beginning to see the benefit of accepting more plastics. "These communities are noticing the value of non-bottle rigid containers," said Christman, who referenced butter tubs as an example of this newly desired product. "They are finding that they get more material by asking for all plastic bottles, regardless of the resin type."

Material recovery facilities (MRFs) can sort out the products by resin, as can plastic recyclers that use machines to identify the different types. The numbers don't lie: Earth911's Local Recycling Directory has increased its listings for plastic #5 more than 67 percent in the last year, and the number will only grow as more programs adapt to the demands for all plastic. If you live in an area that still only accepts plastics #1 and #2, there may be hope for you on the retail front.

- Many Whole Foods stores accept plastic #5 that is turned into toothbrushes and razors by Preserve. This program also accepts Brita water filters.
- Aveda stores accept any rigid plastic bottle caps that many recyclers request you remove from the bottle prior to recycling.
- Check with your local grocery store to see if it accepts plastic bags for recycling. While no stores currently offer a national program, about 70 percent of the material collected is used by Trex to produce plastic lumber.

“Grocery stores are a great resource for bag recycling,” said Christman. “We’ve seen 27 percent growth in bag recycling in the last two years, as consumers realize they are a recyclable commodity.”

Myth #3: There is no market for recycled plastic

Foundation: Take a look at the recycling symbol. The third arrow represents the idea of “closing the loop,” or purchasing products made from recycled content. Without a market for the material to be reprocessed, there’s really no reason to recycle it because it will eventually end up in a landfill. So if you can’t find products made of recycled content, does that mean the material is not recycled?

Rumor has it: For other materials you recycle at the curb (e.g. aluminum cans, cardboard, glass bottles), they are most likely recycled back into the same product. You can buy a soda can with confidence that the aluminum has been through multiple generations, but plastic bottles are still produced with a majority of virgin plastic. However, that doesn’t mean there is no value in plastic recycling.

The truth: “There are over 1,600 companies involved in plastic recycling in the U.S.,” said Christman. “These companies currently have underutilized capacity.” Think of plastic as the utility recyclable; it can be recycled into an abundant variety of products including automotive parts, carpet, lumber, piping and even the bins where you place all your recycling.

This demand for recycled plastic can also be seen financially. “Recyclable plastics are often worth 10 times more than paper,” Christman adds. According to Scrapindex.com, a ton of plastic #1 was also worth 10 times as much as a ton of clear glass and more than three times as much as steel cans in August 2009.

Myth #4: Recyclability is the only factor for eco-friendly packaging

Foundation: Seventy percent of plastic is made from natural gas, and it will take longer to decompose (if not recycled) than materials made with renewable resources, such as glass and paper. It is also frequently cited as one of the top forms of marine debris.

Rumor has it: There are so many variables when it comes to plastic recycling (resin type, rigid versus non-rigid), and every time a piece of plastic is not recycled, it goes to a landfill. So why would manufacturers use packaging that isn’t readily recyclable? The reality is there are other factors to consider when it comes to helping the planet.

The truth: Take the example of yogurt producer Stonyfield farms, which uses plastic #5 to package its products. As explained above, plastic #5 is recyclable but not as commonly accepted as plastic #2, which was also an option for the company. However, Stonyfield found that using PP resin resulted in 30 percent less plastic required than if it went with HDPE. That amounts to 100 tons of additional resin per year that would need to be manufactured, just to improve the chance of recyclability. Going with PP also reduced the weight of the cups, meaning less energy required to transport the cups to stores.

Myth #5: Bioplastics solve all of our disposal issues

Foundation: There are many kinds of bioplastics currently available for packaging, but they all share one characteristic: They are made with renewable materials. Some are biodegradable, some are compostable and others can be recycled with other plastics.

Rumor has it: Bioplastics do not require petroleum, so they can be seen as a way to reduce the dependence on oil. They also provide different disposal outlets that aren't available for traditional plastics. Case closed: Let's produce all future plastic from corn and sugar.

The truth: While bioplastics do have some green benefits, the jury is still out when it comes to disposal. For proof, call your local yard waste facility and see if it accepts these products for compost. "There's currently a lack of infrastructure, and few communities collect these plastics for composting," said Christman. "They also can't be composted in your back yard."

While these plastics may biodegrade in ideal conditions, there's no evidence that they can biodegrade in the darkness and confinement of a landfill. So putting them in the trash may not be any more beneficial than throwing away a PETE bottle.

And since we're on the topic of PETE, what about if you include these bottles with the rest of your recycling? While some have been manufactured to be compatible with PETE resin in recycling, including others will likely contaminate the entire load. This could mean that none of the plastic would be recycled.