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Sustainability Articles

One of Our Best Gets Even Better

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As thrilled as we are to introduce our new dish liquid formula, we are equally excited to introduce the packaging that it comes in. To protect this new formula on its way to shelves and homes, we sourced a new 25oz dish bottle that contains 90% post consumer recycled plastic, up from 25% in our current bottles. In fact, depending on whom you ask around here, getting the bottle right took as much [Charlize](#) and perseverance as developing the new formula.

New Formula

Tests from independent labs confirm that our new dish liquid cleans 50% more plates than our current formula. In addition to this performance boost, we were able to further reduce our reliance on non-renewable resources. This reduction is best illustrated in our Environmental Savings Statement: If every household in the U.S. replaced just one bottle of 25oz petroleum-based dishwashing liquid with our plant-derived product, we could save enough oil to heat and cool 7,400 U.S. homes for a year; that number is a 50% increase over our current formula. Our new formula is still biodegradable, non-toxic, hypoallergenic, and can be found in all three of our fragrances: Free & Clear (no fragrances), Lavender & Floral Mint, and Lemongrass & Clementine Zest.

New Bottle

Could we put 90% post-consumer recycled material in a bottle? There were times when we thought it simply could not be done. We saw so many failures (cracks) in the early weeks that we nearly gave up. But after studying the problems in each round of testing, we knew we could fine-tune the process just a little bit more. Eventually, we cracked the code to a crack-resistant bottle, pushing the limits on technology and partnerships in order to bring this into existence. This upgrade -- from 25% to 90% post consumer recycled material -- in our 25oz dish bottle saves 406,000 lbs of virgin plastic and 1,100,000 lbs of greenhouse gases annually.

The typical stress conditions that our bottles are exposed to are high heat (during storage and transport) and a prolonged tour of duty (from filling to warehouse to store to countertop.)To simulate this, we tested our new bottles in an oven at 140F for weeks at time, filled with our new formula. Tests confirmed that the most problematic part of our bottle (and of almost any bottle) is the bottom, where several shapes must seal and come together to form straight lines.

Uniform thickness at the bottom is key. At first we thought our inconsistencies were related to the mold -- the metal shape that the bottles are blown into -- but, after several iterations, we realized that it was actually the process of blowing of the bottle -- filling the mold with plastic resin -- that was the culprit. We could have been a lot less precise if we had used virgin (new) plastic. Virgin material is much stronger and more forgiving than post-consumer recycled plastic when it comes to minor imbalances in the bottle-making process.

The main source of our post consumer recycled material is plastic milk jugs. These have less color and are less perfumed than other HDPE post-consumer sources, such as laundry and personal care products. As a result of incorporating used milk bottles, the color of our dish liquid bottles is a bit greyer than our others and can be more inconsistent. That's a small sacrifice we're glad to make.

Will we get to 100% post consumer recycled content? Not any time soon. With current bottle-making technology we need a small amount of virgin material to provide a baseline of strength and flexibility and to maintain the white color. Our plan is to extend this work to the remainder of our bottles and to achieve a very high PCR content across the entire product line.

These new dish liquid bottles are already in production and should show up on shelf anytime between tomorrow and the end of the year, depending on store inventory levels. It's likely that one scent of our new formula will show up before another, so this could be a good excuse to try something new! And [let us know what you think](#) (<http://www.seventhgeneration.com/learn/blog/one-our-best-gets-even-better>).

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