TaqMan Assays and TaqMan Primers and Probes

Green benefits

- Sustainable packaging: 57% less packaging
- Less waste: 100% recycled content PET tube rack

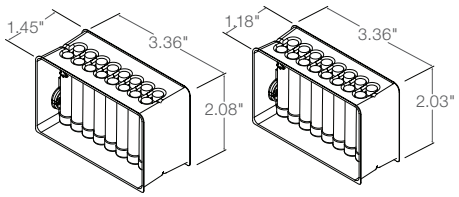

Figure 1. Prior (left) and new (right) plastic tube rack packaging for TaqMan Assays and TaqMan Primers and Probes.

Introduction

We are committed to designing our products with the environment in mind—it's part of how we enable our customers to make the world healthier, cleaner, and safer. This fact sheet provides the rationale behind the environmental claim that the packaging for Applied Biosystems™ TaqMan® Assays and Applied Biosystems™ TaqMan® Primers and Probes has been designed on sustainable packaging principles to reduce packaging by 57% compared to the previous packaging design, without any impact on product integrity. These TaqMan products now use paperboard and plastic packaging containing less material than the original. As a result, the redesigned packaging requires fewer resources, emits less greenhouse gas during transit, and generates less waste at the products' end-of-life. Additionally, the included tube rack is made from 100% recycled polyethylene terephthalate (PET), a recyclable plastic.

Product description

TaqMan Assays are a comprehensive portfolio of real-time PCR primer and probe sets for use in a wide range of research applications. Featuring gold-standard chemistry, and intuitively designed using our proprietary bioinformatics pipeline, TaqMan Assays are used for gene expression, copy number variation (CNV), single-nucleotide polymorphism (SNP), and microRNA analyses. Custom TaqMan primers and probes allow customers to develop their own assay for any experiment or application. Our solutions provide a fast, reliable, and convenient method for generating reproducible results; they have been featured in more than 200,000 publications and 315 patents.

Green features

Sustainable packaging, less waste

The redesigned product packaging for TaqMan Assays and TaqMan Primers and Probes, for 16 tubes or fewer, uses less paperboard and plastic while still protecting the product inside. Both the plastic tube rack (Figure 1), which firmly holds the tubes in place during transport, and the outer paperboard sleeve were reduced to right-size the packaging for this product.

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Additionally, the plastic bag that originally held the product was eliminated to reduce single-use plastic. The new plastic tube rack is made from 100% recycled content PET material, which can be recycled after use [1]. With this reduction in materials, the packaging mass for the new design is now 13.5 g, a 37% reduction from the 21.5 g original packaging. This change also reduced the volume of the product packaging by 60%, down to 98 cm^3 from the previous 248 cm^3 (Table 1).

Table 1. Comparison of new and prior product packaging materials for TaqMan Assays and TaqMan Primers and Probes.

Product packaging	Tube rack and paperboard sleeve packaging (g)	Percent reduction in product packaging	Tube rack and paperboard sleeve packaging volume (cm^3)	Percent reduction in product packaging volume
New design	13.5	37%	98	60%
Prior design	21.5	–	248	–

Table 2. Comparison of new and prior total packaging for TaqMan Assays and TaqMan Primers and Probes.

Total packaging	Tube rack and paperboard sleeve packaging (g)	Paperboard outer shipping packaging (g)	Total packaging mass (g)	Reduction in total packaging mass (g)	Percent reduction in total packaging
New design	13.5	45	58.5	76	57%
Prior design	21.5	113	134.5	–	–

Once the product is assembled and ready to ship using the new, smaller packaging, it can now be dispatched in a paperboard envelope instead of a corrugated cardboard box. The paperboard packaging components are made from a renewable resource and are 100% recyclable.

By redesigning the packaging, we have reduced overall packaging material by 76 g per product shipped—a 57% reduction compared to the original (Table 2). This translates to reductions in raw materials, fuel consumption, and greenhouse gas emissions during transit for distribution of the product and packaging material. For the products shipped each year, the reduction in materials used represents 17 metric tons of CO_2 equivalents—the greenhouse gas emissions from driving 42,000 miles in an average passenger car [2,3]. It also means less waste for our customers to manage in their labs, supporting waste reduction and sustainability efforts.

Redesigning the packaging for TaqMan Assays and TaqMan Primers and Probes to reduce packaging material and waste while retaining the same product integrity is a win for our customers, our company, and our planet.

References

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3. US Environmental Protection Agency, Greenhouse Gas Equivalencies Calculator. **https://www.epa.gov/energy/greenhouse-gas-equivalencies-calculator**

Find out more at **thermofisher.com/taqman** and **thermofisher.com/taqman-primers-probes**

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