

Increase Your Profit Margin with Lyophilization: Benefits for Reagent Kits & Diagnostics

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Executive Synopsis

Lyophilization is a hot topic in biotech and pharma, as numerous suppliers are introducing lyo-ready or pre-lyophilized products to the marketplace. As a result, demand for lyophilization services is growing at a rate that exceeds the current number of trained experts. Benefits of lyophilized products include reduced refrigerated warehouse requirements, lower shipping costs, simplified product use, and longer shelf life. The future of lyophilization continues to balance higher upfront costs versus long-term benefits as improvements in conventional lyophilization technology efficiency are sought. If your product uses cold chain logistics, requires user pipetting, or has a short expiration window, there are significant benefits to introducing a lyophilized version.

Cost Savings

One of the greatest benefits of lyophilization is the ability to reduce expenses on multiple levels. Lyophilized products are shelf stable at room temperature; reducing electrical, space, and equipment costs during storage. According to the Healthcare Distribution Alliance (HDA), 49% of warehouse volume is [used to store refrigerated or frozen products](#)¹, so removing cold storage needs significantly reduces warehouse requirements. Additionally, Good Distribution Practices (GDPs) are becoming more broadly adopted, which [increase costs to monitor temperature range storage](#)¹ compliance for cold products.

While the cost savings from room temperature storage are significant, those attributed to cutting cold chain shipping logistics may be even greater. In 2018, the pharmaceutical cold chain logistics industry was valued at [over \\$15 billion and is predicted to expand to \\$18 billion by 2022](#)¹. Of that \$15 billion, \$10.6 billion is transportation costs and \$4.4 billion is packaging-related. Consider how much money is wasted by cold chain packaging. Over-packing wastes resources and fuel, and adds to transportation costs, while under-packing leads to damaged or spoiled product that must be [replaced](#)². Using lyophilization to replace your cold chain with room temperature shipping can dramatically bring down costs across multiple categories.

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