



## Single-dose vial improves test reliability and delivers a more affordable solution

How TekniPlex Healthcare helped a diagnostic test kit manufacturer substantially reduce costs, improve accuracy and strengthen customer relationships



## PROBLEM

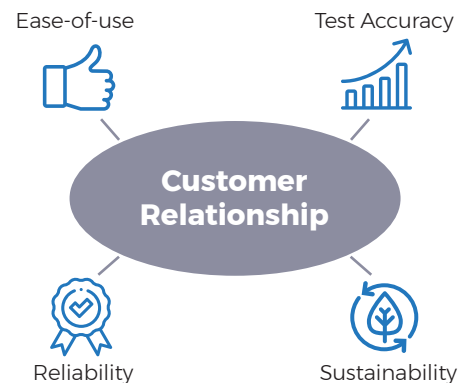
A manufacturer of rapid diagnostic test kits for sexually transmitted diseases had been using a 5ml bottle to contain 1 ml of its buffer solution. However, only 0.6 ml was required for the test. That meant that the unused 0.4ml (or 2,000 liters) was wasted, accounting for 40,000 Euro of lost product annually. Additionally, the extra 0.4ml in the vial meant that the wrong amount was sometimes used for the diagnostic test resulting in inaccurate results. The company was not only giving product away but it was making it more difficult to achieve accurate results which also jeopardized customer relationships and patient outcomes.

## CAUSE

The issue was using a bottle that was incorrectly sized for the application. The additional content in the bottle jeopardized the ability for tests to be administered uniformly. The company originally selected the 5ml container because it was an easy-to-source stock container. It had not taken into consideration how that would impact wasted product and test accuracy.

## SOLUTION

The problem was solved by switching to a 0.6ml injection molded, polyethylene single-dose vial. The vial offers good squeezability and dispenses the precise amount required to conduct the diagnostic test.



5ml bottle to a 0.6ml single-dose vial



**Current Packaging**  
5ml bottle

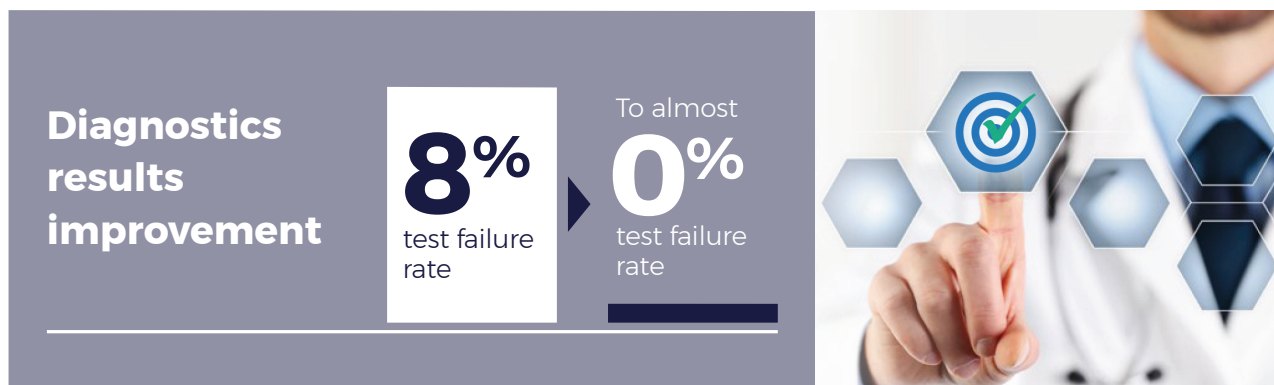
**TekniPlex Healthcare**  
0.6ml single-dose vial



## BENEFIT

Converting to the single-dose vial yielded multiple significant benefits for the diagnostic kit manufacturer. These include:

- **Eliminated invalid tests** while also enabling improved patient outcomes. Original 8% test failure rate now down to almost 0% because the vial contains the exact buffer solution required to execute test.
- **2,000 liters/40,000 Euro** of wasted product eliminated
- **60% packaging reduction** resulting in at least 465,000 Euro savings per year
- **Improved environmental footprint** due to lower plastic use. Multidose bottle weighs 5 grams, single-dose weighs .94 grams, resulting in savings of 4.06gr of plastic per vial for an average of 20.3 metric tons per year
- **Improved customer relationships** due to reliability, ease-of-use, test accuracy, sustainability



## ABOUT TEKNIplex HEALTHCARE

TekniPlex Healthcare deploys world-class material science expertise to deliver value in creating products for medical devices, diagnostics, and drug delivery. With a deep understanding of the needs of end-users, our offerings ensure we provide innovative solutions at the point of patient care. For more information about TekniPlex Healthcare and our solutions, visit [www.Tekni-Plex.com/healthcare](http://www.Tekni-Plex.com/healthcare).