The BD PhaSeal System reduces waste, enhances savings

Drug waste is a serious problem in healthcare; the cost absorbs up to 7-15% of annual oncology budgets.\(^1\) Drug waste is one of many factors that has led to:\(^2\)
- More than 200 medications that are currently in short supply in the US\(^3\)†
- Fifteen deaths having been directly attributed to drug shortages\(^4\)

Is there an answer?

- According to the American Society of Health System Pharmacists, “extending the sterility of drug vial content within the chemical stability date can help maximize the amount of drug utilized.”\(^5\)
- A closed system transfer device (CSTD) proven to prevent microbial ingress can extend the sterile life of drugs and enable Drug Vial Optimization (DVO).\(^6\)

The BD PhaSeal System:

- Peer reviewed studies have proven to meet the NIOSH and ISOPP requirement that a CSTD “…mechanically prohibits the transfer of environmental contamination into the system.”\(^7\)
- FDA cleared to prevent microbial ingress
  - As a result, studies have shown sterility of vial contents remains unaffected.\(^8\)

The BD PhaSeal System enables DVO

<table>
<thead>
<tr>
<th>Punctured Drug Vial</th>
<th>Punctured Drug Vial w/ BD PhaSeal</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Term</strong></td>
<td><strong>FDA CLEARED</strong></td>
</tr>
<tr>
<td>1h (outside ISO Class V)</td>
<td>1h (outside ISO Class V)</td>
</tr>
<tr>
<td>6h (within ISO Class V)</td>
<td>Up to 168h (within ISO Class V)</td>
</tr>
<tr>
<td><strong>Sterility</strong></td>
<td><strong>Stability</strong></td>
</tr>
<tr>
<td>Per drug manufacturer’s labeling</td>
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</tr>
</tbody>
</table>

BD PhaSeal is the first and only FDA cleared CSTD indicated to reduce exposure to hazardous drugs.
Discover the **BD PhaSeal System** Difference

The BD PhaSeal System provides Safety with Savings

Maximizes your investment in safety:
- Cuts drug waste to enable savings
- BD provides superior support and training for exceptional efficiency

The BD PhaSeal System:
- Protects the microbial state of the vial contents for up to 168 hours
- Reduces the impact of drug shortages
- Helps fund investments in healthcare worker safety
- Cuts the environmental impact of drug waste

Savings in Drug Expeditures

**Economic and Microbiologic Evaluation of Single-Dose Vial Extension for Hazardous Drugs**

24% of hospitals that employ CSTDs use them to extend the dating of products as part of drug vial optimization programs.

For more information, contact your BD representative or call: 1.800.237.2738
visit us online at [www.bd.com/phaseal](http://www.bd.com/phaseal)

† As of December 2012
†† Rowe et al study projected annual actual savings based on 6 months of waste log tracking for 19 hazardous drugs, assuming a 6 hour open vial policy and 2 months of 2009 drug pricing data for a large academic institution.
‡ For drugs indicated as stable for at least 168 hours, a compounding pharmacy using the BD PhaSeal System and following USP <797> may choose to use the vial contents for the sterile duration.
* For up to 10 punctures of the protector, within an ISO Class V environment following appropriate antimicrobial technique.
**Example only. You may experience higher or lower savings depending on drugs utilized, reimbursement, clinical practice, etc.
2. www.ismp.org/newsletters/acute-care/showarticle.asp?id=18
4. Associated Press. Deaths, delayed treatment caused by drug shortages. 9/24/11
8. Data on file at BD.

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