



BD Hazardous Drug Safety product catalog

Our portfolio to help protect
your greatest assets



They're your team—working each day to deliver the highest-quality care. And when they prepare or administer hazardous drugs (HDs), they need and deserve to be protected.

The BD Hazardous Drug Safety (HDS) portfolio is designed to help you reduce the risk of HD exposure and surface contamination. It includes the BD PhaSeal™ Optima System—the next-generation closed-system drug transfer device (CSTD) solution; the BD PhaSeal™ System—the most widely published CSTD in the world; the Texium™ System CSTD and the BD® HD Check System—the first HD detection system that provides results in less than 10 minutes.*

Our clinical team can tailor a solution for your facility that balances your needs for personnel safety, workflow efficiency and cost. So your greatest assets can focus on the job at hand—improving outcomes and saving lives.

* Tests for select hazardous drugs. Surfaces with contamination at or above the limits of detection have 95% specificity and sensitivity.



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The BD PhaSeal™ Optima System

It's the next generation of hazardous drug protection. We asked longstanding CSTD users and traditional technique users how we could make the pioneering BD PhaSeal™ System even better. The feedback and validation we received guided us to optimize every device within the system.

The result is the BD PhaSeal™ Optima System—with design innovations that advance safety, performance, ergonomics and ease of use—to address your clinical and economic concerns.





BD PhaSeal™ Optima Drug Vial Access Devices

The BD PhaSeal™ Optima Protector is a pressure-equalization device that is permanently attached to the vial. It is used in the preparation of drugs from either powder or liquid form. The protector establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the vial.

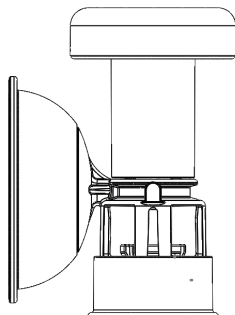


BD PhaSeal™ Optima Protectors

REF 515060

BD PhaSeal™ Optima Protector
P13-O

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

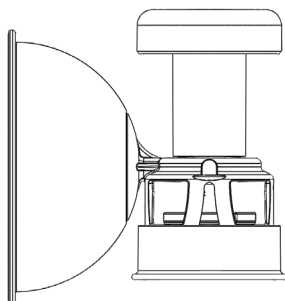


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 13 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P13-O has an **equalizing capacity of 10 mL of air**. Blue cap. Does not contain natural rubber latex. BPA free.

REF 515064

BD PhaSeal™ Optima Protector
P20-O

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 ea |
| Case | 100 ea |

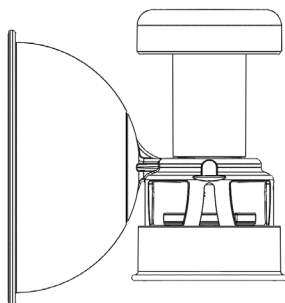


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 20 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P20-O has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

REF 515065

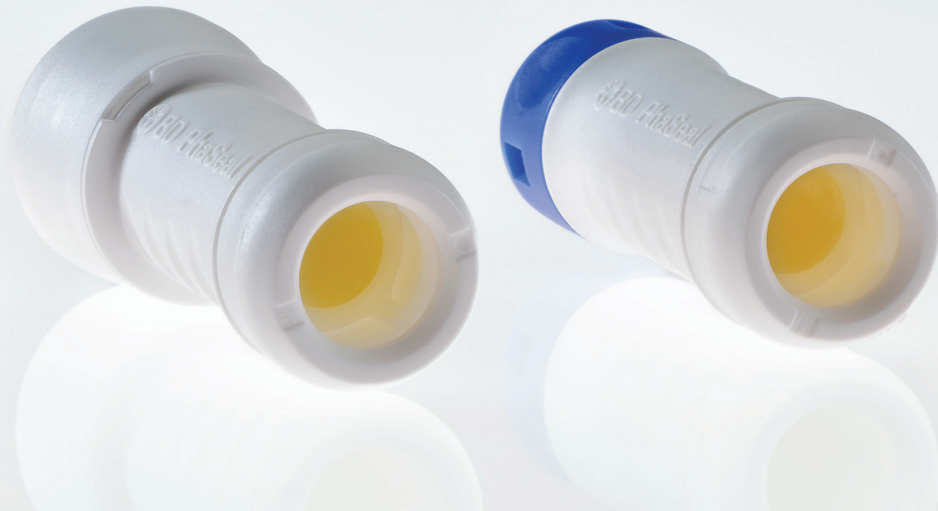
BD PhaSeal™ Optima Protector
P20-O Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 150 |



Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of 20 mm**. When attached to a vial, the BD PhaSeal™ Optima Protector P20-O has an **equalizing capacity of 50 mL of air**. Green cap. Multi-pack includes 30 individual packages of 5 BD PhaSeal™ Optima Protector P20-O units. Does not contain natural rubber latex. BPA free.





BD PhaSeal™ Optima Syringe Safety Devices

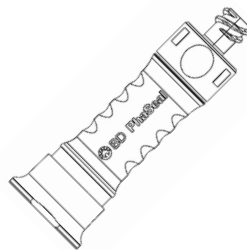
The BD PhaSeal™ Optima System is leakproof for both short- and long-term connections, with membranes that self-seal upon disconnect.

BD PhaSeal™ Optima Injectors

REF 515052

BD PhaSeal™ Optima Injector N35-O

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

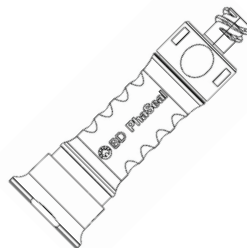


Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF 515053

BD PhaSeal™ Optima Injector N35-O Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 250 |



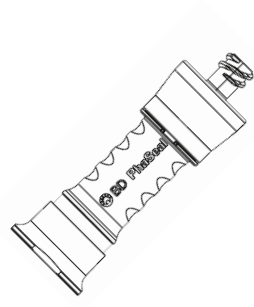
Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Multi-pack includes 50 individual packages of 5 BD PhaSeal™ Optima Injector N35-O units. Does not contain natural rubber latex. BPA free.



BD PhaSeal™ Optima Injectors

REF 515056
BD PhaSeal™ Optima
Locking Injector N40-O

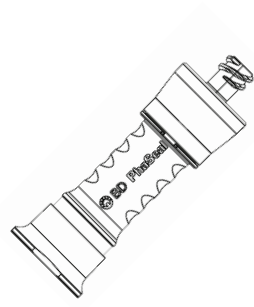
| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |



Transfer device that attaches and locks to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF 515057
BD PhaSeal™ Optima
Locking Injector N40-O Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 250 ea |



Transfer device that attaches and locks to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.





BD PhaSeal™ Optima IV Bag / Line Access Devices

These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.

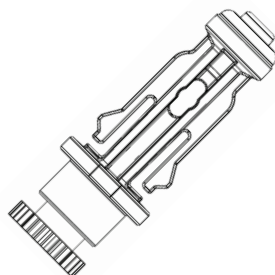


BD PhaSeal™ Optima IV Bag / Line Access Devices

REF 515070

BD PhaSeal™ Optima Connector
C35-O

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

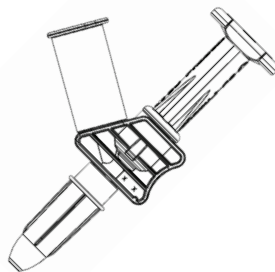


Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF 515078

BD PhaSeal™ Optima Infusion
Adapter C100-O

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 40 ea |
| Case | 160 ea |

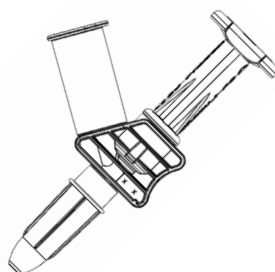


Connection between IV bag and non-vented set. Built-in BD PhaSeal™ Optima Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

REF 515079

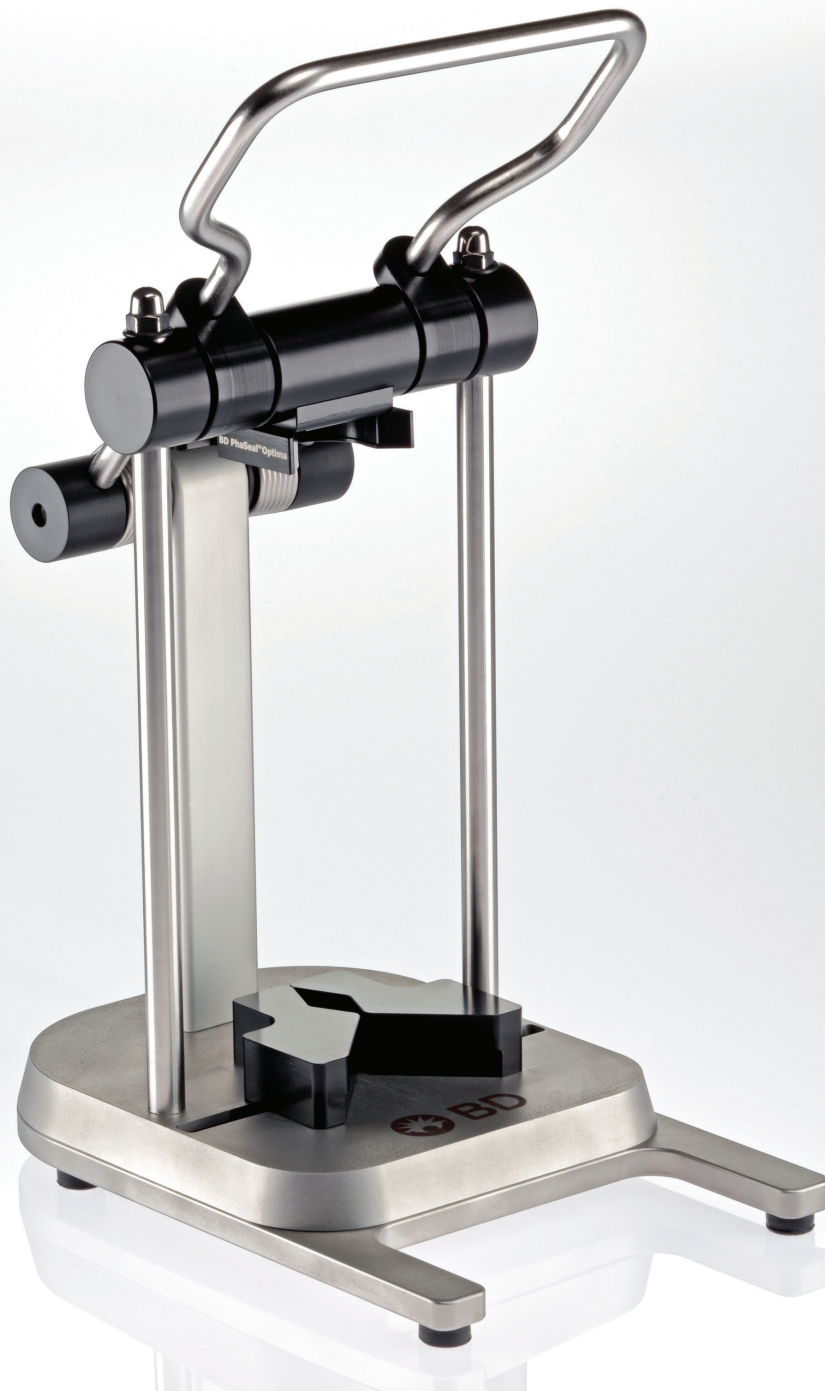
BD PhaSeal™ Optima Infusion
Adapter C100-O Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 250 ea |



Connection between IV bag and non-vented set. Built-in BD PhaSeal™ Optima Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.





BD PhaSeal™ Optima System Accessories

These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.

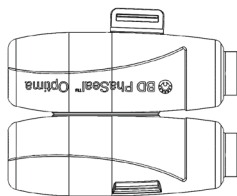


The BD PhaSeal™ Optima System Accessories*

REF 515085

BD PhaSeal™ Optima Infusion Clamp M25-O*

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 ea |
| Case | 100 ea |

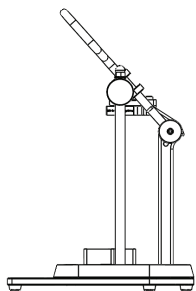


Clamp for securing the connection of injector luer lock to the connector. Non-sterile. Does not contain natural rubber latex. BPA free.

REF 515082

BD PhaSeal™ Optima Assembly Fixture M12-O*

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 1 ea |
| Case | 1 ea |



Assembly fixture used for consistent and simple attachment of a protector to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

*BD PhaSeal™ Optima System Accessories are optional.





The BD PhaSeal™ System

The BD PhaSeal™ System pioneered the category of closed-system drug transfer devices (CSTDs). It is the most widely published CSTD in the world, supported by more than 25 peer-reviewed, published studies.

For over 20 years, facilities have used the BD PhaSeal™ System to protect their personnel from hazardous drug exposure and to reduce drug waste. Designed with double membranes and vapor capture mechanisms, it is an airtight and leakproof CSTD that minimizes individual and environmental exposure to vapor aerosols and spills during the preparation, administration and disposal of HDs.



BD PhaSeal™ Drug Vial Access Devices

Each BD PhaSeal™ Protector is a pressure-equalization device that is permanently attached to the vial. It is used in the preparation of drugs from either powder or liquid form. The protector establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the vial.

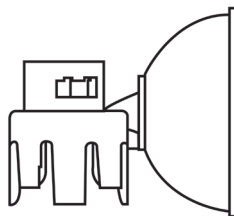


BD PhaSeal™ Protectors

REF 515100

BD PhaSeal™ Protector P14

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

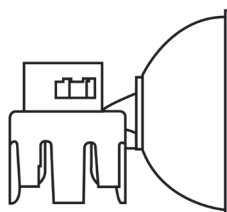


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø13 mm**. When attached to a vial, the BD PhaSeal™ Protector P14 has an **equalizing capacity of 20 mL of air**. Blue cap. Does not contain natural rubber latex. BPA free.

REF 515102

BD PhaSeal™ Protector P21

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |



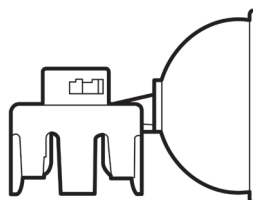
Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P21 has an **equalizing capacity of 20 mL of air**. Red cap. Does not contain natural rubber latex. BPA free.

REF 515103

BD PhaSeal™ Protector P21

Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 5 ea |
| Case | 250 ea |

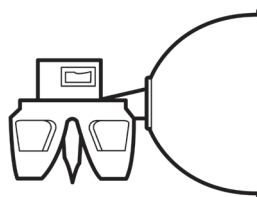


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P21 has an **equalizing capacity of 20 mL of air**. Red cap. Does not contain natural rubber latex. BPA free.

REF 515104

BD PhaSeal™ Protector P28

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 ea |
| Case | 100 ea |



Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø28 mm**. When attached to a vial, the BD PhaSeal™ Protector P28 has an **equalizing capacity of 60 mL of air**. White cap. Does not contain natural rubber latex. BPA free.

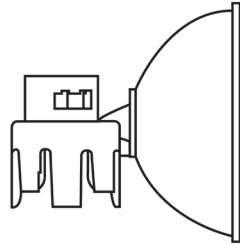


BD PhaSeal™ Protectors

REF 515105

BD PhaSeal™ Protector P50

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 ea |
| Case | 100 ea |

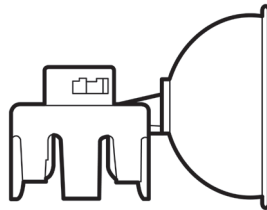


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P50 has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

REF 515106

BD PhaSeal™ Protector P50
Multi-pack

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 5 ea |
| Case | 150 ea |

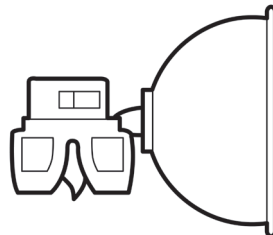


Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P50 has an **equalizing capacity of 50 mL of air**. Green cap. Does not contain natural rubber latex. BPA free.

REF 515117

BD PhaSeal™ Protector P55

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 ea |
| Case | 100 ea |



Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, the BD PhaSeal™ Protector P55 has an **equalizing capacity of 50 mL of air**. Mint green cap. This protector contains a plastic spike to help reduce coring and fragmentation. Does not contain natural rubber latex. BPA free.





BD PhaSeal™ Syringe Safety Devices

The BD PhaSeal™ System ensures leakproof drug transfer thanks to sealed, elastomeric, double membranes.

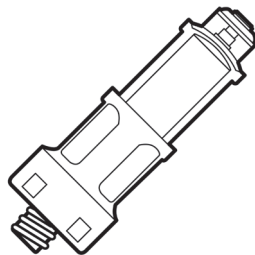
BD PhaSeal™ Injectors

REF 515003

BD PhaSeal™ Injector Luer Lock N35

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|--------|
| Shelf pack | 50 ea |
| Case | 200 ea |



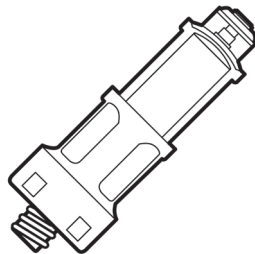
Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF 515005

BD PhaSeal™ Injector Luer Lock N35C Multi-pack

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|--------|
| Shelf pack | 5 ea |
| Case | 250 ea |



Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.



BD PhaSeal™ IV Bag / Line Access Devices

These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.

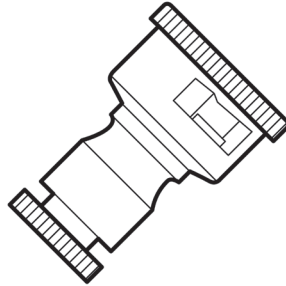


BD PhaSeal™ IV Bag / Line Access Devices

REF 515200

BD PhaSeal™ Connector
Luer Lock C35

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

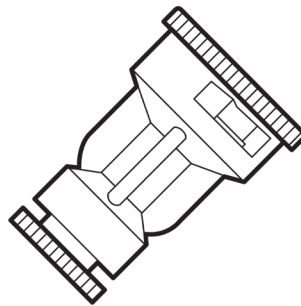


Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF 515202

BD PhaSeal™ Connector
Luer Lock C45

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 ea |
| Case | 200 ea |

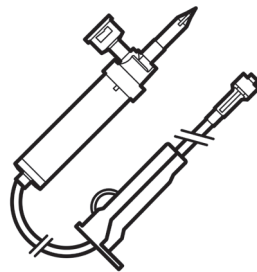


Attaches to the patient's IV line, providing a closed connection to the injector. Standard luer lock connection. This connector is designed for use with needle-free ports with internal pistons. Does not contain natural rubber latex. BPA free.

REF 515301

BD PhaSeal™ Secondary
Set Drip Chamber C60

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 80 ea |



Secondary set with built-in BD PhaSeal™ Connector for closed transfer to IV bag.

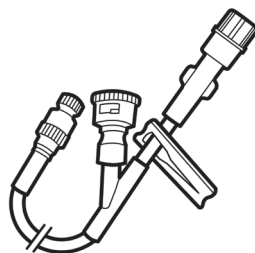
L: 102 cm PV: 12.5 mL Drops / mL: 20

Does not contain natural rubber latex. BPA free.

REF 515304

BD PhaSeal™ Y-site Connector
C80

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 30 ea |
| Case | 120 ea |



Extension tubing with built-in BD PhaSeal™ Connector.

P: 21 cm PV: 1.6 mL

Does not contain natural rubber latex. BPA free.



BD PhaSeal™ IV Bag / Line Access Devices

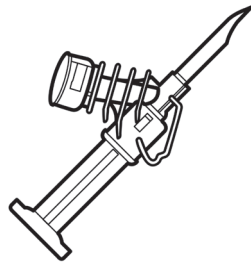
REF 515306

BD PhaSeal™ Infusion Adapter C100

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-------|
| Shelf pack | 50 ea |
|------------|-------|

| | |
|------|--------|
| Case | 100 ea |
|------|--------|



Connection between IV bag and non-vented infusion set. Built-in BD PhaSeal™ Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

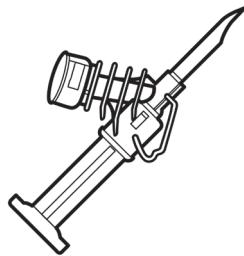
REF 515307

BD PhaSeal™ Infusion Adapter C100 Multi-pack

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|------|
| Shelf pack | 5 ea |
|------------|------|

| | |
|------|--------|
| Case | 250 ea |
|------|--------|



Connection between IV bag and non-vented infusion set. Built-in BD PhaSeal™ Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.



BD PhaSeal™ System Accessories

These devices help aid in the preparation, transport and administration of hazardous drugs.

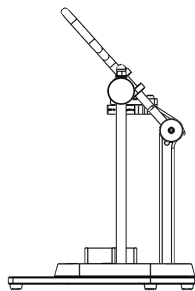


BD PhaSeal™ System Accessories*

REF 515400

BD PhaSeal™ Assembly Fixture M12

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 1 ea |

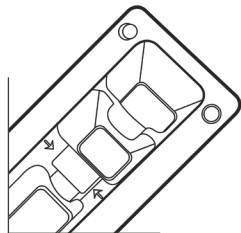


Assembly fixture used for consistent and simple attachment of a protector to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

REF 515401

BD PhaSeal™ Syringe Tray M15

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 80 ea |



The syringe tray is used to transport the filled syringe to the administration area. Designed to accommodate **1–30 mL syringes** with the BD PhaSeal™ Injector Luer Lock N35. Non-sterile. Does not contain natural rubber latex. BPA free.

*BD PhaSeal™ System Accessories are optional.



BD PhaSeal™ System Accessories*

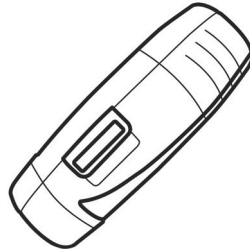
REF 515403

BD PhaSeal™ Infusion Clamp M25

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-------|
| Shelf pack | 25 ea |
|------------|-------|

| | |
|------|--------|
| Case | 100 ea |
|------|--------|



Clamp for securing the connection of the BD PhaSeal™ Injector Luer Lock N35. Non-sterile. Does not contain natural rubber latex. BPA free.

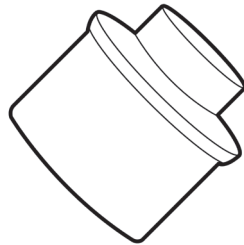
REF 515404

BD PhaSeal™ Cap for Injector Membrane M50

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-------|
| Shelf pack | 50 ea |
|------------|-------|

| | |
|------|--------|
| Case | 200 ea |
|------|--------|



Protects membrane on Injector from direct contact with contaminated surfaces during transport and storage. Does not contain natural rubber latex. BPA free.

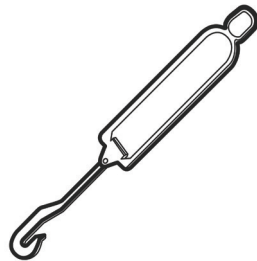
REF 515405

BD PhaSeal™ Hanger for IV Bag M55

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-------|
| Shelf pack | 40 ea |
|------------|-------|

| | |
|------|--------|
| Case | 160 ea |
|------|--------|



Hanger for securing the IV bag on the IV pole. Does not contain natural rubber latex. BPA free.



*BD PhaSeal™ System Accessories are optional.





The Texium™ System

The Texium™ System utilizes mechanical valve technology to help protect healthcare workers and patients from hazardous drugs (HDs). It features a needle-free luer lock connection on all vial adapters, the option for Texium™ Bonded Syringes and BD SmartSite™ Needle-free Connectors for nursing. For facilities using BD Alaris™ Pumps, the Texium™ System components can be integrated into the administration sets to aid in workflow and prevent accidental disconnections to the infusion line.

When the Texium™ System and the BD SmartSite™ Needle-free Connector are paired together, they provide a leak-free, drip-free connection and disconnection.

The Texium™ System provides pharmacists and nurses with a simple and cost-effective solution.



Texium™ Drug Vial Access Devices

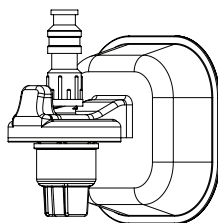
These devices are available in single- or multi-dose configurations, in closed and vented sizes (non-vented, vented and SmartSite™ VialShield) to fit a variety of drug vials and needles. Texium™ Drug Vial Access Devices are used in the preparation of hazardous drugs from powder or liquid form. The Texium™ Drug Vial Access Device works with our Texium™ Closed Male Luer to form a closed system that lets you safely access drug vials. The SmartSite™ VialShield Vial Access Device is a pressure-equalization device that is permanently attached to the vial. This device establishes and maintains neutral pressure when air or fluid is injected into or aspirated from the drug vial.



SmartSite™ VialShield Vial Access Devices

REF MV0513

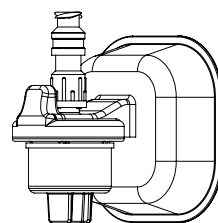
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



13 mm closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø13 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

REF MV0520

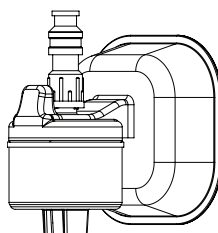
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



20 mm closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø20 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

REF MV0528

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



28 mm closed vial access device. Vial adapter for closed reconstitution and pressure equalization. For drug vials with **neck diameter of Ø28 mm**. When attached to a vial, it has an **equalizing capacity of 60 mL of air**. Does not contain natural rubber latex. BPA free.

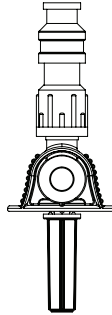




SmartSite™ Vented Vial Access Devices

REF MV0400

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |

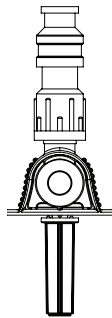


Universal vented vial access device. Compatible with **neck diameter of Ø13 mm, Ø20 mm and Ø28 mm vial closures.** 0.2-micron hydrophobic air-venting filter. Does not contain natural rubber latex. BPA free.

REF MV040010

Multi-pack

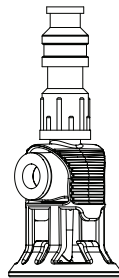
| Packaging | Quantity |
|------------|----------|
| Shelf pack | 10 |
| Case | 100 |



Universal vented vial access device. Compatible with **neck diameter of Ø13 mm, Ø20 mm and Ø28 mm vial closures.** 0.2-micron hydrophobic air-venting filter. Does not contain natural rubber latex. BPA free.

REF MV0413

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



13 mm vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø13 mm.** Does not contain natural rubber latex. BPA free.

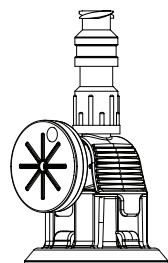




SmartSite™ Vented Vial Access Devices

REF MV0420

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |

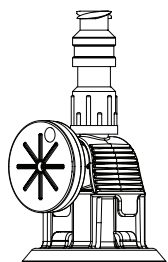


20 mm vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.

REF MV042005

Multi-pack

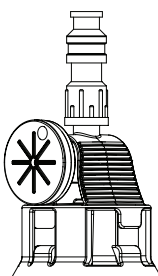
| Packaging | Quantity |
|------------|----------|
| Shelf pack | 5 |
| Case | 100 |



20 mm vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.

REF MV0428

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



28 mm vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø28 mm**. Does not contain natural rubber latex. BPA free.

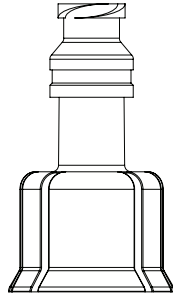




SmartSite™ Non-vented Vial Access Devices

REF 2203E

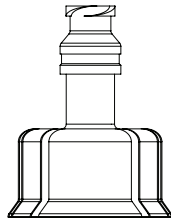
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



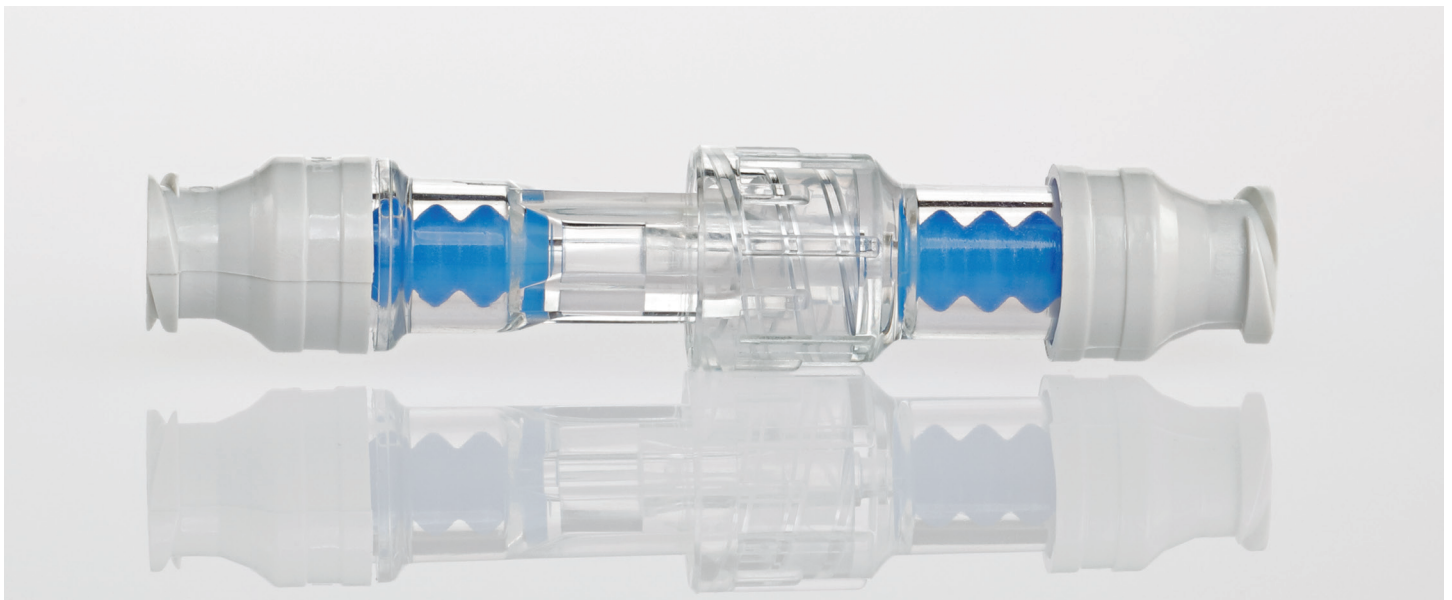
13 mm non-vented vial access device. Vial adapter for reconstitution. For drug vials with **neck diameter of Ø13 mm**. Does not contain natural rubber latex. BPA free.

REF 2205E

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



20 mm non-vented vial access device. For drug vials with **neck diameter of Ø20 mm**. Does not contain natural rubber latex. BPA free.



Texium™ Syringe Safety Devices

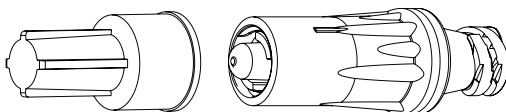
These devices utilize mechanical valve technology and help aid in the transfer of hazardous medication. When the Texium™ System and the BD SmartSite™ Needle-free Connector are paired together, they provide a leak-free, drip-free connection and disconnection. Bonded Texium™ Syringe Safety Devices provide a preassembled two-in-one solution to help optimize safety, simplify workflow and minimize cost.



Texium™ Syringe Safety Devices

REF 10012241-0500

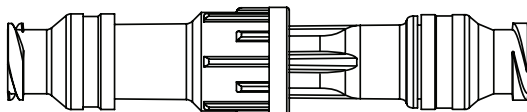
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Texium™ Closed Male Luer with female cap. Transfer device that attaches to a disposable syringe or IV tubing with a standard luer lock connection. Does not contain natural rubber latex. BPA free.

REF MV0450

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 50 |
| Case | 100 |



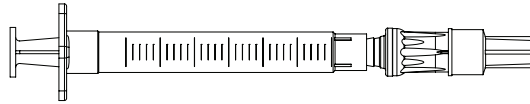
BD SmartSite™ Syringe-to-Syringe Transfer Device. Comprised of two Bonded BD SmartSite™ Needle-free Connectors to aid in the transfer of fluids and medications from one syringe to another syringe. Does not contain natural rubber latex. BPA free.



Texium™ Syringe Safety Devices

REF MY8003

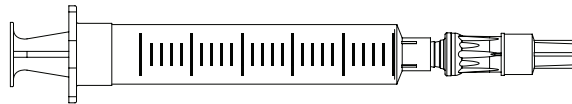
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



3 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

REF MY8005

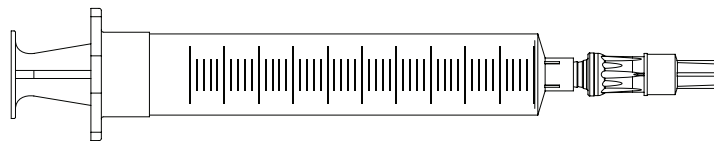
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



5 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

REF MY8010

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



10 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

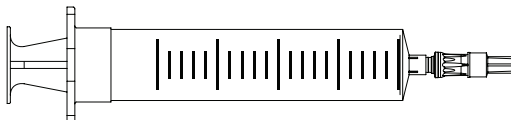




Texium™ Syringe Safety Devices

REF MY8020

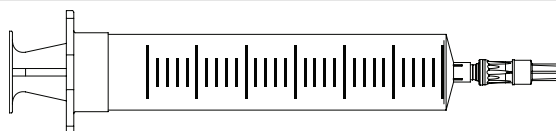
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



20 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

REF MY8030

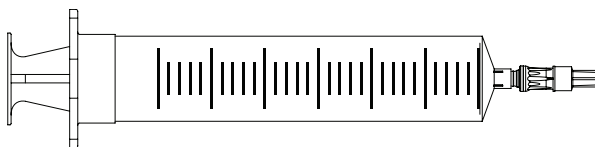
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



30 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.

REF MY8060

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



50 mL needle-free syringe with Bonded Texium™ Closed Male Luer. Bonded components designed to promote the closed safe handling of fluids and medications. Does not contain natural rubber latex. BPA free.



Texium™ IV Bag / Line Access Devices

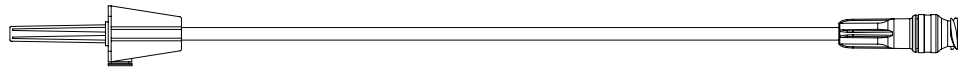
These devices help to support closed transfer to infusion bags and closed administration of the drug via the patient's IV line.



Texium™ IV Bag / Line Access Devices

REF 22001E-07

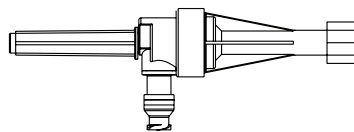
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Bag access device, microbore with BD SmartSite™ Needle-free Connector. Connection between IV bag and infusion set. Does not contain natural rubber latex. BPA free.

REF 10013365

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 25 |
| Case | 100 |



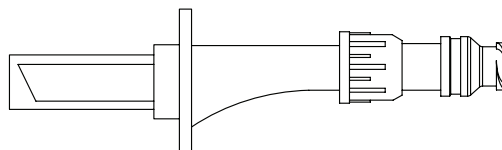
BD SmartSite™ Add-on Bag Access Device, spike adapter. Connection between IV bag and infusion set. Built-in BD SmartSite™ Bag Access Port Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.



Texium™ IV Bag / Line Access Devices

REF 2300E-0500

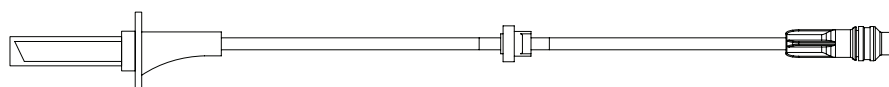
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



BD SmartSite™ Bag Spike. Connection between IV bag and infusion set. Built-in BD SmartSite™ Needle-free Connector for closed transfer to IV bag. Does not contain natural rubber latex. BPA free.

REF 2309E

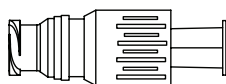
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



BD SmartSite™ Bag Spike with check valve. Connection between IV bag and infusion set. Built-in BD SmartSite™ Needle-free Connector for closed transfer to IV bag while mating with a Texium™ Closed Male Luer. Check valve allows no backflow of fluid into the IV bag. Does not contain natural rubber latex. BPA free.

REF 2000EA

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



BD SmartSite™ Needle-free Connector. Permits a closed injection and aspiration of fluids without the use of needles. Labeled for use with low-pressure power injectors up to 325 psi and maximum flow rate of 10 mL / second. Does not contain natural rubber latex. BPA free.





Texium™ System Accessories

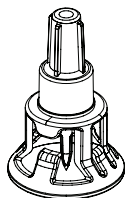
These devices help aid in the preparation, transport and administration of hazardous drugs.



Texium™ System Accessories

REF MV0613

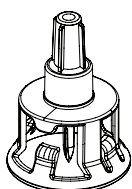
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



13 mm Texium™ Vial Access Device with male luer. Device used in the transfer of hazardous drugs with a **13 mm** size neck vial directly into an IV bag. Does not contain natural rubber latex. BPA free.

REF MV0620

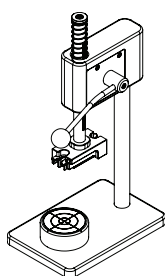
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



20 mm Texium™ Vial Access Device with male luer. Device used in the transfer of hazardous drugs with a **20 mm** size neck vial directly into an IV bag. Does not contain natural rubber latex. BPA free.

REF MV4000

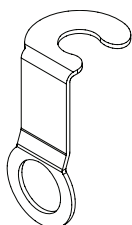
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 1 |



Vial press. Mechanical device used for consistent and simple attachment of Texium™ Vial Access Devices to a drug vial. Non-sterile. Does not contain natural rubber latex. BPA free.

REF MV2000

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



IV bag hinge. Helps to maintain a tight connection between the IV bag spike and IV bag. For use only with B Braun 150 mL PAB bags. Does not contain natural rubber latex. BPA free.



Texium™ IV Primary Infusion Sets

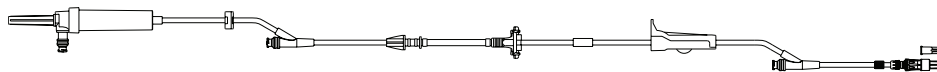
All these devices are designed to work with the BD Alaris™ Pump Module 8100 and include many types of tubing. Various configurations can integrate the BD SmartSite™ Needle-free Valve Ports above or below the pumping segment.



IV Primary Infusion Sets (Bonded Texium™)

REF 10013361T

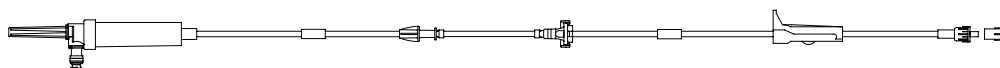
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valve Ports (6 in, 87 in; one above pumping segment and one below) from Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.
L: 118 in L: 298 cm PV: 25 mL

REF 10321213T

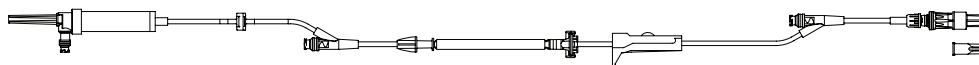
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.
L: 107 in L: 272 cm PV: 24 mL

REF 24601-B007T

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Two BD SmartSite™ Needle-free Valves (6 in, 99 in; one above pumping segment and one below) from Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.
L: 118 in L: 300 cm PV: 24 mL

REF 22600-0007T

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Roller, pinch clamp(s). Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free.
L: 47 in L: 120 cm PV: 14 mL



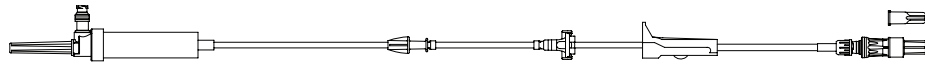
IV Primary Infusion Sets (Bonded Texium™)

REF 22602-B007T

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-----|
| Shelf pack | N/A |
|------------|-----|

| | |
|------|----|
| Case | 20 |
|------|----|



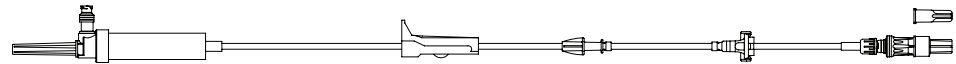
BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain
 natural rubber latex. BPA free. **L: 118 in L: 300 cm PV: 24 mL**

REF 22603-B007T

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-----|
| Shelf pack | N/A |
|------------|-----|

| | |
|------|----|
| Case | 20 |
|------|----|



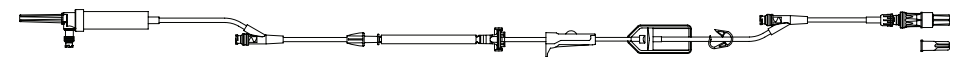
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural
 rubber latex. BPA free. **L: 47 in L: 120 cm PV: 14 mL**

REF 24602-B007T

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-----|
| Shelf pack | N/A |
|------------|-----|

| | |
|------|----|
| Case | 20 |
|------|----|



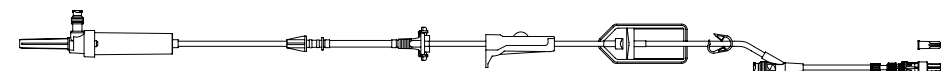
BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, 0.2-micron filter
 (1.72 sq in low-protein binding), roller, pinch clamp(s). Two BD SmartSite™ Needle-free
 Valves (6 in, 88 in; one above pumping segment and one below). Texium™ Closed Male
 Luer. Fluid path sterile. 20 drop. **L: 118 in L: 300 cm PV: 27 mL**

REF 24301-0007T

| Packaging | Quantity |
|-----------|----------|
|-----------|----------|

| | |
|------------|-----|
| Shelf pack | N/A |
|------------|-----|

| | |
|------|----|
| Case | 20 |
|------|----|



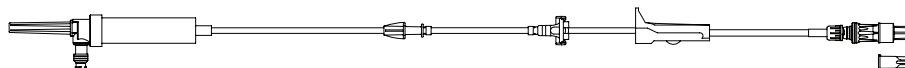
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter
 (1.72 sq in low-protein binding), roller, pinch clamp(s). One BD SmartSite™
 Needle-free Valve (6 in, above Bonded Texium™ Closed Male Luer) from Texium™
 Closed Male Luer. Fluid path sterile. 20 drop. **L: 115 in L: 292 cm PV: 27 mL**



IV Primary Infusion Sets (Bonded Texium™)

REF 22601-B007T

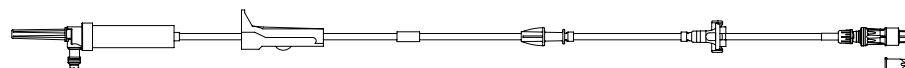
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain
 natural rubber latex. BPA free. **L: 77 in L: 196 cm PV: 19 mL**

REF 22000-B007T

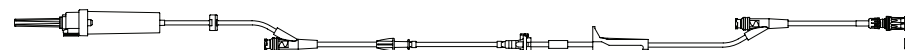
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s).
 Texium™ Closed Male Luer. Fluid path sterile. 20 drop. Does not contain natural
 rubber latex. BPA free. **L:45 in L:115 cm PV: 14 mL**

REF 24009-0007T

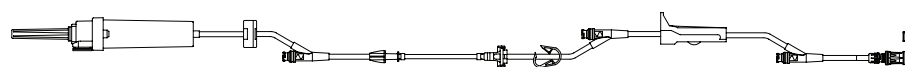
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valves
 (81 in, 6 in, from Texium™ Closed Male Luer). Fluid path sterile. 20 drop.
 Does not contain natural rubber latex. BPA free. **L: 117 in L: 298 cm PV: 25 mL**

REF 24010-0007T

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |

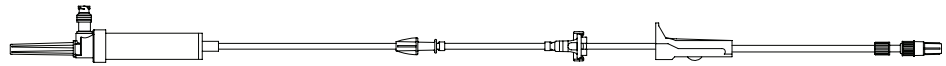


Check valve, roller, pinch clamp(s). Three BD SmartSite™ Needle-free Valves
 (96 in, 74 in, 6 in, from Texium™ Closed Male Luer). Fluid path sterile. 20 drop.
 Does not contain natural rubber latex. BPA free. **L: 126 in L: 321 cm PV: 26 mL**

IV Primary Infusion Sets (Non-bonded Texium™)

REF 22604-B007

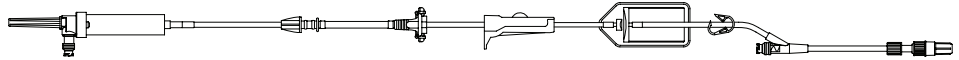
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s), two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 118 in L: 299 cm PV: 24 mL**

REF 2465-0007

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter (1.72 sq in low-protein binding), roller, pinch clamp(s). One BD SmartSite™ Needle-free Valve (6 in, below pumping segment) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 116 in L: 294 cm PV: 27 mL**

REF 2466-0007

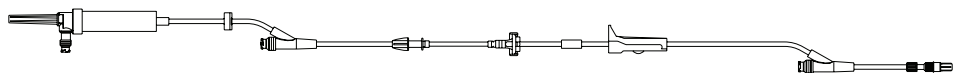
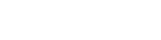
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s), spin male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 87 in L: 220 cm PV: 21 mL**

REF 10013361

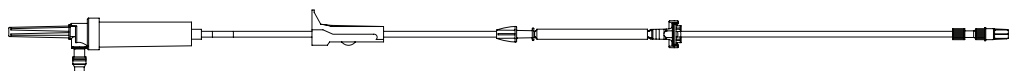
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller clamp(s). Two BD SmartSite™ Needle-free Valves (6 in, 87 in; one above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 118 in L: 299 cm PV: 25 mL**

REF 10015862

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |

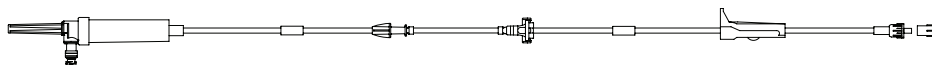


Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 45 in L: 115 cm PV: 14 mL**

IV Primary Infusion Sets (Non-bonded Texium™)

REF 10321213

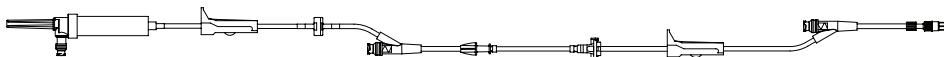
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Fixed male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 106 in L: 270 cm PV: 24 mL**

REF 10014855A

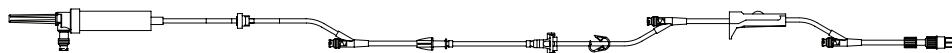
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Two BD SmartSite™ Needle-free Valves (6 in, 99 in; one above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 116 in L: 294 cm PV: 24 mL**

REF 10015861A

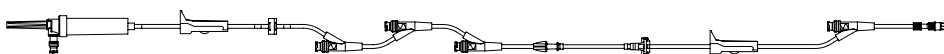
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



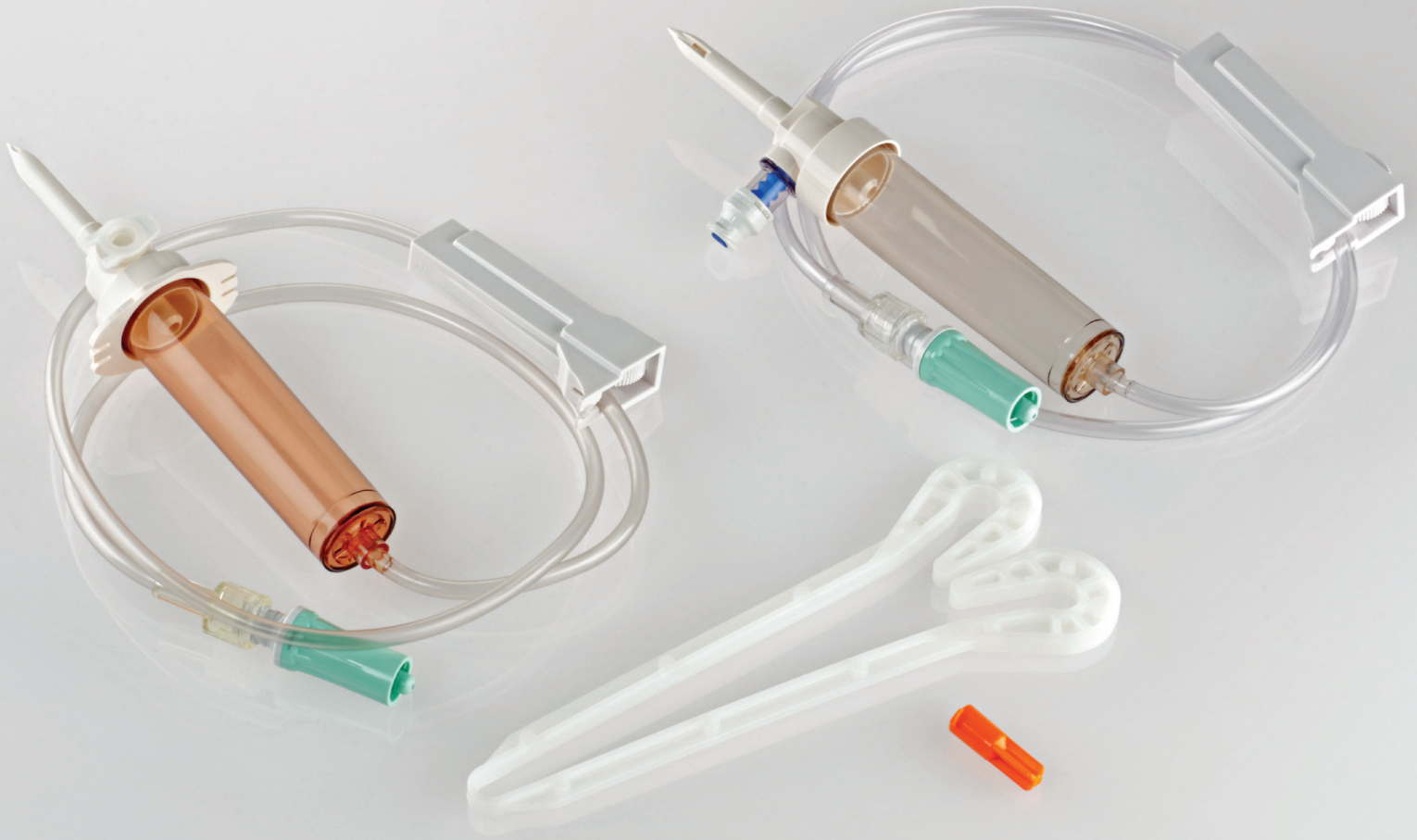
Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, roller, pinch clamp(s). Three BD SmartSite™ Needle-free Valves (6 in, 74 in, 96 in; one above pumping segment and two below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 127 in L: 323 cm PV: 25 mL**

REF 10061661A

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 20 |



Non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Check valve, two roller clamps. Four BD SmartSite™ Needle-free Valves (6 in, 90 in, 92 in, 94 in; three above pumping segment and one below) from two-piece male luer lock. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 127 in L: 308 cm PV: 25 mL**



Texium™ IV Secondary Infusion Sets

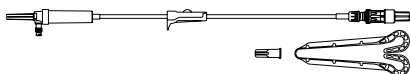
We offer a wide variety of secondary infusion sets designed to work with needle-free valves, including BD SmartSite™ Injection Ports. Specialized tubing is not made with DEHP as part of the formulation and is available with filtration and integrated safety features.



IV Secondary Infusion Sets (Bonded Texium™)

REF 10013364T

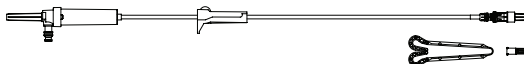
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 81 cm PV: 12 mL**

REF 70001B-07T

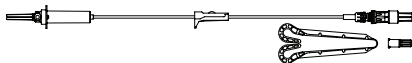
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Secondary set, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 12 mL**

REF 72213NT

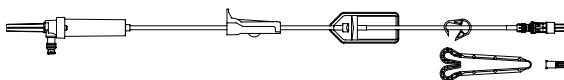
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Secondary set, roller clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 82 cm PV: 12 mL**

REF 4030B-07T

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |

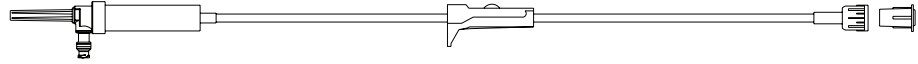


Secondary set, BD SmartSite™ Needle-free Valve Bag Access Port. 0.2-micron filter (1.72 sq in low-protein binding), roller, pinch clamp(s). Texium™ Closed Male Luer with Hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 32 in L: 81 cm PV: 14 mL**

IV Secondary Infusion Sets (Non-bonded Texium™)

REF 10013364

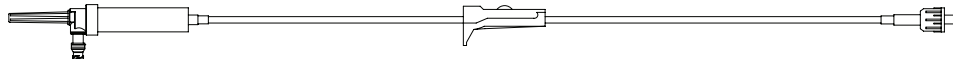
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller clamp(s). Fixed male luer lock with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 7 mL**

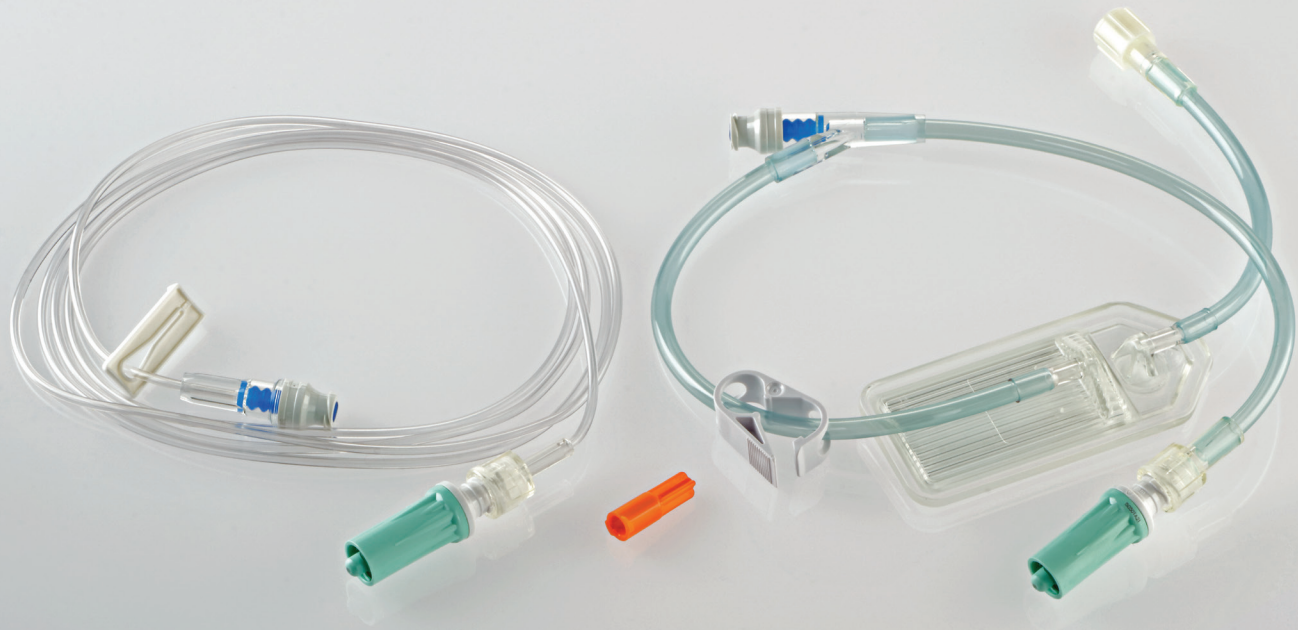
REF 10014881

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



Secondary set, non-vented, BD SmartSite™ Needle-free Valve Bag Access Port. Roller, pinch clamp(s). Fixed male luer lock with hanger. Fluid path sterile. 20 drop. Does not contain natural rubber latex. BPA free. **L: 31 in L: 79 cm PV: 8 mL**





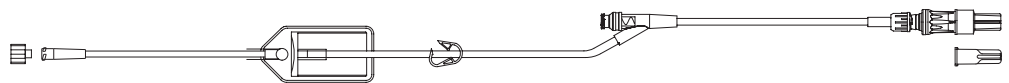
BD SmartSite™ Extension Infusion Sets

BD SmartSite™ Extension Sets are available with BD SmartSite™ Needle-free Connectors. We offer fluid path extension sets, and extension sets in small bore and standard bore tubing sizes with varying priming volumes depending on the tubing size and length.

IV Extension Infusion Sets (Bonded Texium™)

REF 20350ET

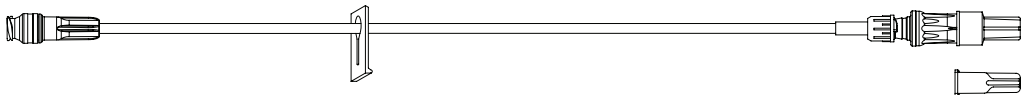
| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 100 |



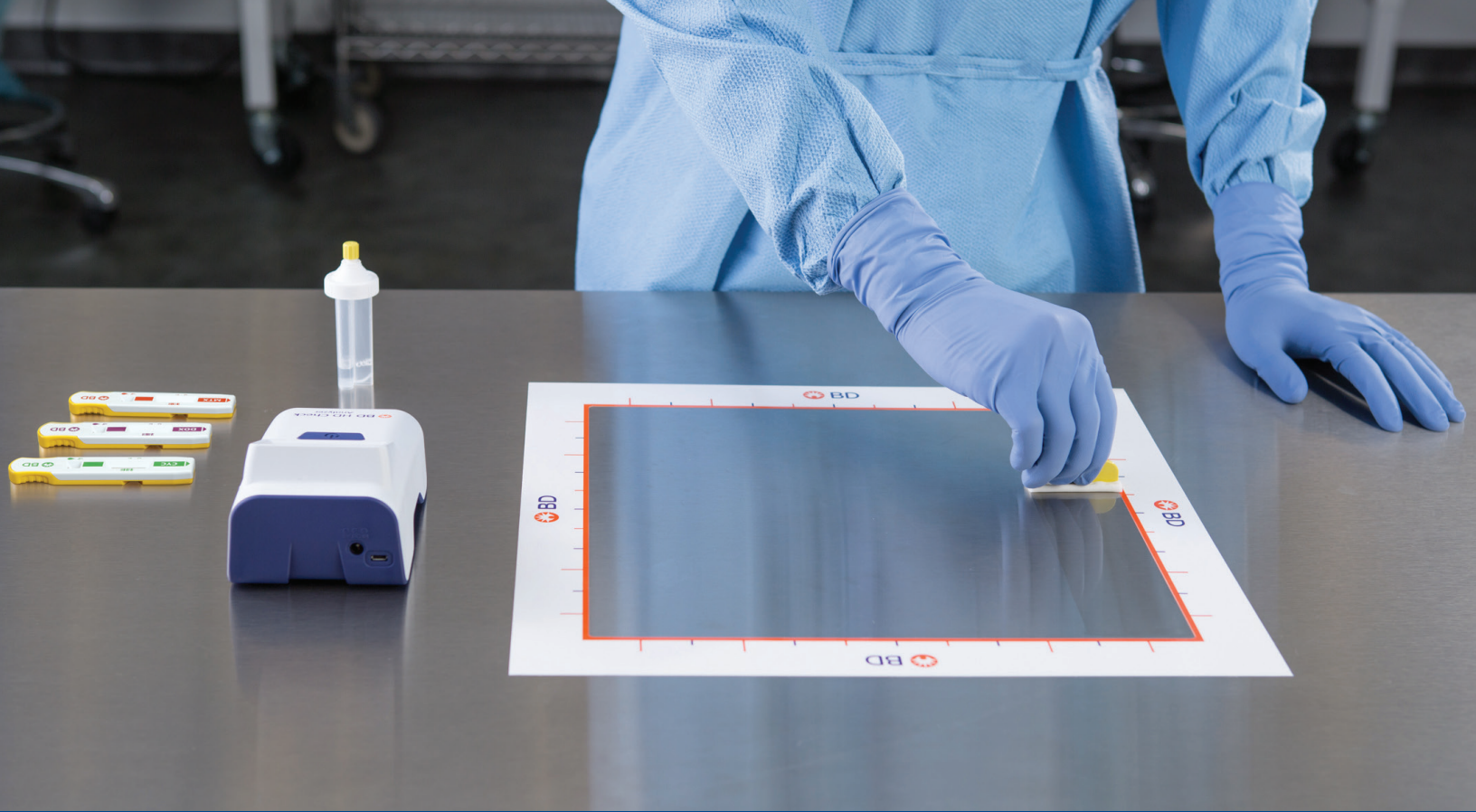
Extension set. 0.2-micron filter (1.72 sq in low-protein binding), slide clamp(s). One BD SmartSite™ Needle-free Valve (6 in from Texium™ Closed Male Luer). Fluid path sterile. Does not contain natural rubber latex. BPA free.
L: 20 in L: 51 cm PV: 6 mL

REF 22005E-07T

| Packaging | Quantity |
|------------|----------|
| Shelf pack | N/A |
| Case | 50 |



Extension set, microbore, one BD SmartSite™ Needle-free Connector, slide clamp. Fluid path sterile. Does not contain natural rubber latex. BPA free.
L: 62 in L: 158 cm PV: 1.6 mL



The BD[®] HD Check System

The BD[®] HD Check System is the first rapid hazardous drug* detection system that provides results in less than 10 minutes. It reliably** detects surface contamination on multiple surfaces for a select number of HDs* using proven lateral flow assay technology. The handheld design of the BD[®] HD Check System makes it easy and convenient to conduct testing at any location. The results are quick, reliable and easy to read, enabling immediate corrective action to be taken.

Users can easily integrate the BD[®] HD Check System into their daily routine or workflow, tracking contamination levels over time. It can also help facilities monitor their compliance with aspects of USP <800> and other safe handling guidelines.

* The BD[®] HD Check System tests for select hazardous drugs—cyclophosphamide, doxorubicin and methotrexate.

** Surfaces with contamination at or above the limits of detection have 95% specificity and sensitivity.



BD® HD Check Analyzer and Collection

REF 515020

BD® HD Check Analyzer

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 1 ea |
| Case | 1 ea |

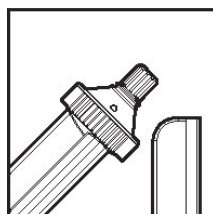


Analyzer that reads results from specific assay cartridges and delivers results of surface contamination. Does not contain natural rubber latex. BPA free.

REF 515033

BD® HD Check Hazardous Drug Collection Kit

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 20 ea |

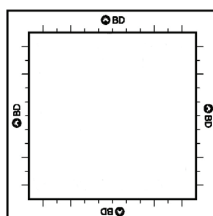


Includes one collection tube/dropper with solution and one wipe used to collect a sample from desired surface. Does not contain natural rubber latex. BPA free.

REF 515024

BD® HD Check Collection Template 12" x 12"

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 20 ea |



A 12 in x 12 in cut-out used to establish collection area on desired surface. Does not contain natural rubber latex. BPA free.



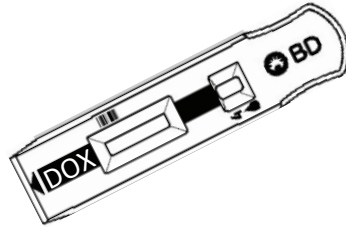


BD® HD Check Assay Cartridges

REF 515025

BD® HD Check Doxorubicin Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 20 ea |

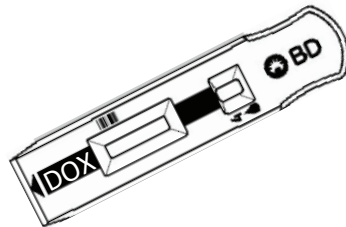


Assay cartridge used to detect surface contamination of **Doxorubicin** from a collection sample. Does not contain natural rubber latex. BPA free.

REF 515026

BD® HD Check Doxorubicin Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 40 ea |
| Case | 40 ea |

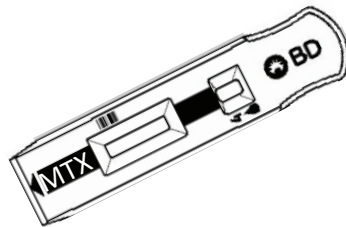


Assay cartridge used to detect surface contamination of **Doxorubicin** from a collection sample. Does not contain natural rubber latex. BPA free.

REF 515029

BD® HD Check Methotrexate Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 20 ea |

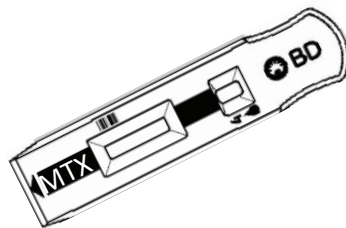


Assay cartridge used to detect surface contamination of **Methotrexate** from a collection sample. Does not contain natural rubber latex. BPA free.

REF 515030

BD® HD Check Methotrexate Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 40 ea |
| Case | 40 ea |



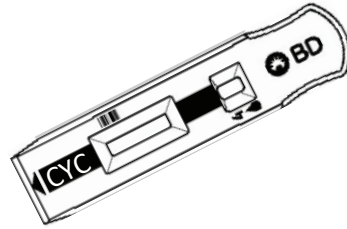
Assay cartridge used to detect surface contamination of **Methotrexate** from a collection sample. Does not contain natural rubber latex. BPA free.



REF 515031

BD® HD Check
Cyclophosphamide
Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 20 ea |
| Case | 20 ea |

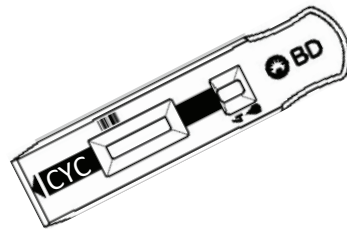


Assay cartridge used to detect surface contamination of **Cyclophosphamide** from a collection sample. Does not contain natural rubber latex. BPA free.

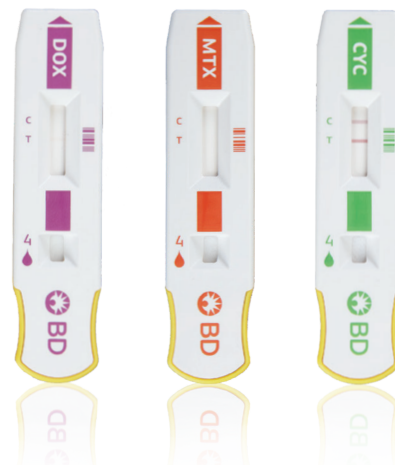
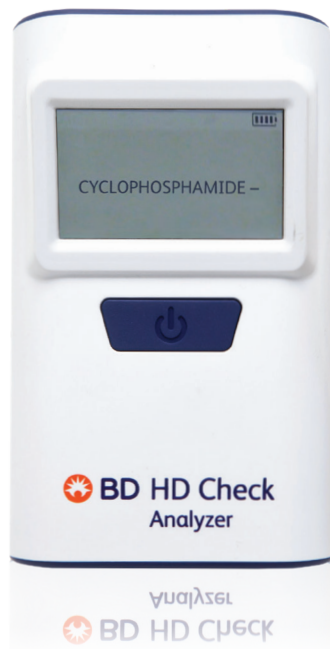
REF 515032

BD® HD Check
Cyclophosphamide
Assay Cartridge

| Packaging | Quantity |
|------------|----------|
| Shelf pack | 40 ea |
| Case | 40 ea |



Assay cartridge used to detect surface contamination of **Cyclophosphamide** from a collection sample. Does not contain natural rubber latex. BPA free.





Material specifications and acronyms

This is a reference guide for specifications and acronyms for materials related to the BD PhaSeal™ Optima System, the BD PhaSeal™ System and the Texium™ System, to help provide health and safety information about our products and their chemical makeup/substances.

BD PhaSeal™ Optima System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within the BD PhaSeal™ Optima System products as detailed in Tables 2–5.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

Table 1: Raw materials abbreviations and descriptions

| | |
|------|-----------------------------|
| AC | Acrylate polymer |
| DEHP | Di-(2-ethylhexyl) phthalate |
| PA | Polyamide |
| PI | Polyisoprene |
| POM | Polyoxymethylene |
| PP | Polypropylene |
| PVC | Polyvinyl chloride |
| TPE | Thermoplastic elastomer |

Table 2: Protector materials

| | |
|--|---|
| Protectors REF BD PhaSeal™ Optima Protector P13-O, BD PhaSeal™ Optima Protector P20-O | Not made with DEHP |
| Protector membrane cap | PP |
| Membrane | PI |
| Protector body | PP |
| Hydrophobic and oleophobic filter | AC |
| Expansion chamber | PP |
| Expansion film | PA/PP |
| Lubricant on spike | Silicone |
| Sleeve | TPE |
| Grip cap | Colored PP (color specific to protector size) |

BD PhaSeal™ Optima Protectors do not contain DEHP, BPA, rubber latex or PVC



Table 3: Injector and cannula materials

| | |
|--|--------------------|
| Injector luer locks | |
| REF BD PhaSeal™ Optima Injector N35-O | Not made with DEHP |
| Hub | Colored PP |
| Cannula | Stainless steel |
| Cannula lubricant | Silicone |
| Grip 1 | PP |
| Spring | Stainless steel |
| Collet | POM |
| Membrane | PI |
| Grip 2 | PP |
| Cap | PP |

BD PhaSeal™ Optima Injectors do not contain DEHP, BPA, rubber latex or PVC

Table 4: Connector materials

| | |
|---|--------------------|
| Connector | |
| REF BD PhaSeal™ Optima Connector C35-O | Not made with DEHP |
| Membrane | PI |
| Body | PP |
| Lid | Colored PP |

BD PhaSeal™ Optima Connectors do not contain DEHP, BPA, rubber latex or PVC



Table 5: Infusion adapter materials

| Infusion adapter REF BD PhaSeal™ Optima Infusion Adapter C100-O | |
|---|--------------------|
| | Not made with DEHP |
| Spike cap | PP |
| Infusion adapter body | PP |
| Membrane | PI |
| Infusion adapter membrane cap | PP |
| Spike port | Colored TPE |

BD PhaSeal™ Optima Infusion Adapters do not contain DEHP, BPA, rubber latex or PVC



BD PhaSeal™ System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within the BD PhaSeal™ System products as detailed in Tables 2–7.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

Table 1: Raw materials abbreviations and descriptions

| | |
|------|---|
| ABS | Acrylonitrile-butadiene-styrene copolymer |
| DEHP | Di-(2-ethylhexyl) phthalate |
| PA | Polyamide |
| PE | Polyethylene |
| POM | Polyoxymethylene |
| PP | Polypropylene |
| PTFE | Polytetrafluoroethylene |
| PVC | Polyvinyl chloride |
| SEBS | Styrene ethylene butylene styrene |
| TPE | Thermoplastic elastomer |

Table 2: Protector materials and cannula size

| | |
|---|--------------------|
| Protectors | |
| REF BD PhaSeal™ Protector P14, BD PhaSeal™ Protector P21, BD PhaSeal™ Protector P28, BD PhaSeal™ Protector P50, BD PhaSeal™ Protector P55 | Not made with DEHP |
| Expansion film | PA / PP |
| Hydrophobic filter | PTFE |
| Filter cover | PP |
| Membrane | TPE |
| Housing | PP |
| Cannulae: BD PhaSeal™ Protector P14, BD PhaSeal™ Protector P21, BD PhaSeal Protector P50 | Stainless steel |
| Cannula size: | |
| BD PhaSeal™ Protector P14 –1.0 mm OD x 0.7 mm ID | |
| BD PhaSeal™ Protector P21, BD PhaSeal™ Protector P50–1.65 mm OD x 1.35 mm ID | |
| BD PhaSeal™ Protector P28, BD PhaSeal™ Protector P55– no cannula (PP spike) | |
| Protective lid | PP |

Table 3: Injector materials and cannula size

| | |
|--|------------------------|
| Injector luer locks REF BD PhaSeal™ Injector Luer Lock N35, BD PhaSeal™ Injector Luer Lock N35C | Not made with DEHP |
| Cannula 18G (1.2 mm OD x 0.9 mm ID) | Stainless steel |
| Cylinder | ABS |
| Membrane | TPE |
| Piston | PP |
| Cannula housing | PP |
| Safety sleeve | POM |
| Piston sealing | Silicone |
| Cap (BD PhaSeal™ Injector Luer Lock N35, BD PhaSeal™ Injector Luer Lock N35C) | PP |

Table 4: Connector materials

| | |
|--|--------------------|
| Connector luer locks REF BD PhaSeal™ Connector Luer Lock C35, BD PhaSeal™ Connector Luer Lock C45 | Not made with DEHP |
| Housing | PP |
| Membrane | TPE |
| Protective cap | PE |

Table 5: Infusion adapter materials

| | |
|--|--------------------|
| Infusion adapter REF BD PhaSeal™ Infusion Adapter C100 | Not made with DEHP |
| Protective cap | PP / PE |
| Spike housing | PP |
| Membrane | TPE |
| Spike port | TPE |



Table 6: Y-site connector materials

| | |
|---|--------------------------|
| Y-site connector | |
| REF BD PhaSeal™ Y-site Connector C80 | Not made with DEHP |
| Connector housing | ABS |
| Membrane | TPE |
| Tubing | PVC (not made with DEHP) |
| Clamp | PP |
| Y-tubing section | ABS |
| Male luer end | Acrylic |
| Cap male luer end | PE |
| Female luer end | ABS |
| Cap female luer end | ABS |

Table 7: Secondary IV set materials

| | |
|---|--------------------------|
| Secondary IV sets | |
| REF BD PhaSeal™ Secondary Set Drip Chamber C60 | Not made with DEHP |
| All IV protective cap (spikes) | PE |
| Sets: | |
| Spike | ABS |
| Connector | ABS |
| Membrane | TPE |
| Tubing | PVC (not made with DEHP) |
| Drip chamber | PVC (not made with DEHP) |
| Clamp (not fluid path) | ABS |
| Male luer end | ABS |
| Cap male luer end | PE |



Texium™ System material specifications and acronyms

Table 1 includes a reference guide to the abbreviations for materials found within Texium™ System products as detailed in tables 2–11.

 Materials in orange text indicate fluid path components.

 Materials in blue text indicate components that may contact fluid.

Table 1: Raw materials abbreviations and descriptions

| | |
|------|---|
| ABS | Acrylonitrile-butadiene-styrene copolymer |
| DEHP | Di-(2-ethylhexyl) phthalate |
| HDPE | High-density polyethylene |
| MABS | Methyl methacrylate-acrylonitrile-butadiene-styrene |
| PC | Polycarbonate |
| PE | Polyethylene |
| PP | Polypropylene |
| PTFE | Polytetrafluoroethylene |
| PVC | Polyvinyl chloride |
| TPE | Thermoplastic elastomer |

Table 2: Universal vented vial adapter materials

| | |
|--|---|
| Universal vented vial adapter | |
| REF MV0400 | Not made with DEHP Approximate flow rate: > 3,000 mL per hour Residual fluid: < 1.2 mL Priming volume: < 0.15 mL |
| Vial access device body | MABS |
| Air filter | |
| Housing | HDPE |
| Filter | Acrylic copolymer / nylon |
| BD SmartSite™ Needle-free Valve | |
| Body | Acrylic |
| Female luer | Polyurethane |
| Piston | Silicone |

| Table 3: SmartSite™ Vented Vial Adapter materials | |
|---|---|
| REF MV0413, MV0420, MV0428 | Not made with DEHP Total length = 2.3 in, PV = 0.08 mL (MV0413) Total length = 2.3 in, PV = 0.1 mL (MV0420, MV0428) |
| Vial access device body | MABS |
| Air filter | |
| Housing | MABS (MV0420 / MV0428) HDPE (MV0413) |
| Filter | Acrylic copolymer / nylon |
| BD SmartSite™ Needle-free Valve | |
| Body | Acrylic |
| Female luer | Polyurethane |
| Piston | Silicone |

| Table 4: BD SmartSite™ VialShield Closed Vial Adapter materials | |
|---|--------------------|
| REF MV0513, MV0520, MV0528 | Not made with DEHP |
| Shroud housing | PVC |
| Upper housing | PVC |
| Check valve | Silicone |
| Air filter (not shown—in upper housing) | PTFE / nylon |
| Chamber membrane | Polyurethane |
| BD SmartSite™ Needle-free Valve | |
| Body | Acrylic |
| Female luer | Polyurethane |
| Piston | Silicone |



| Table 5: BD SmartSite™ IV Bag Access Device materials | |
|---|---|
| REF 2300E | Not made with DEHP Total length = 3.5 in PV = 0.51 mL |
| Cap | PE |
| Body | Acrylic |
| BD SmartSite™ Needle-free Valve | |
| Body | Acrylic |
| Female luer | Polyurethane |
| Piston | Silicone |
| Solvent | Cyclohexanone |

| Table 6: BD SmartSite™ Add-on Bag Access Device materials | |
|---|---|
| REF 10013365 | Not made with DEHP Total length = 4.0 in PV = 0.60 mL |
| Spike | PE |
| Port cap | ABS |
| Spike / body | ABS |
| Spike port | PVC |
| BD SmartSite™ Needle-free Valve | |
| Body | PC |
| Female luer | Polyurethane |
| Piston | Silicone |
| Solvent | Cyclohexanone |



| Table 7: BD SmartSite™ Needle-free Valve materials | |
|--|--|
| REF 2000E, 2000EA | Not made with DEHP PV = 0.11 mL labeled for use with low-pressure power injectors up to 325 psi and maximum flow rate of 10 mL / second |
| Body | Acrylic |
| Female luer | Polyurethane |
| Piston | Silicone |
| Cap | PE |





Key terms, abbreviations and symbols

This is a reference guide for key medical terms, abbreviations and symbols that are used to describe materials found within the products for the BD PhaSeal™ Optima System, the BD PhaSeal™ System, the Texium™ System and the BD® HD Check System.

Key terms, abbreviations and symbols

0.2-micron filter

Removes particulate matter larger than 0.2 microns and virtually all fungi and bacteria. Often used as a final filter for air elimination.

Note: Filters are self-priming. DO NOT INVERT FILTER. Filters contain Supor[®] (polyethersulfone) membranes, which have low-protein and drug-binding characteristics.

Two-piece male luer lock

Male luer lock with retractable rotating collar.

20 drop

Spike is designed so that 20 drops equal approximately 1 mL.

Bag access

BD SmartSite™ Port integrated into the drip chamber spike, which allows direct fluid path access into a spiked container.

Check valve

A device that allows flow in only one direction. Commonly used for secondary piggyback drug administration or to protect certain elements of the set from high pressures that can occur when a syringe injects into the set.

Content sterile

The entire content of the package is sterile, and is tested / validated and labeled for placing directly on a sterile field.

DEHP Di-(2-ethylhexyl) phthalate

A plasticizer used in PVC tubing to make it soft and pliable.

Note: All sets contain DEHP unless otherwise noted.

Fixed male luer lock

Male luer and collar are one piece. Collar does not spin or move freely.

Fluid path sterile

Although the entire administration set is sterilized, only the capped, fluid path portion of the administration set was tested to meet sterility requirements.

Microbore / ultra-minibore

Tubing with smaller internal diameter of ≤ 0.04 in, to minimize the contained volume.

Needle-free / needleless

Needle-free connectors or valves, also known as needleless connectors or valves. Offer a safe way to access IV lines without the use of a needle, which greatly reduces the risk of accidental needlestick injuries.

Non-vented

Characteristic of the spike that enters the solution container. Designed for collapsible plastic containers, as no air is required to enter the container for fluid to flow.

Not made with DEHP

Set / component is not made with DEHP.

Not made with natural rubber

Latex is known to cause hypersensitivity reactions and allergies in significant percentages of patients and healthcare workers.*

Spin male luer lock

Male luer lock with rotating collar.

Standard bore

Tubing with larger diameter of ≥ 0.1 in.

Note: All sets with tubing are standard bore unless otherwise noted.






Vented / non-vented

Characteristic of the spike that enters the solution container. Designed for containers that do not collapse when emptying (glass or semi-rigid plastic). Vent allows air to enter the container to allow fluid to flow.

Note: All sets with drip chambers are vented / non-vented unless otherwise noted.

* Nguyen K, Kohli A. Latex Allergy. [Updated 2020 Nov 21]. In: StatPearls [Internet]. Treasure Island (FL): StatPearls Publishing; 01/2021. Available from: <https://www.ncbi.nlm.nih.gov/books/NBK545164/>

| Abbreviations | |
|---------------|---|
| ABS | Acrylonitrile-butadiene-styrene copolymer |
| BPA | Bisphenol A |
| CYC | Cyclophosphamide |
| DEHP | Di-(2-ethylhexyl) phthalate |
| DOX | Doxorubicin |
| HDPE | High-density polyethylene |
| MABS | Methyl methacrylate-acrylonitrile-butadiene-styrene |
| MTX | Methotrexate |
| PA | Polyamide |
| PC | Polycarbonate |
| PE | Polyethylene |
| POM | Polyoxymethylene |
| PP | Polypropylene |
| PTFE | Polytetrafluoroethylene |
| PVC | Polyvinyl chloride |
| SEBS | Styrene ethylene butylene styrene |
| TPE | Thermoplastic elastomer |

| Key of symbols | |
|---|---------------------------------|
|  | Sterilized using ethylene oxide |
|  | Sterilized using irradiation |
|  | Non-sterile |
|  | Do not reuse |
|  | Does not contain DEHP |



BD: Your partner in advancing the quality of oncology care

A key part of oncology care is the safe and effective delivery of medications that contain hazardous drugs.

BD is conducting Oncology Care Assessments that could potentially benefit your organization using BD products. We use an advanced methodology that includes powerful digital tools to provide analytics and benchmarks, and provide evidence-based recommendations, including the use of BD products.

It starts with interviews in Pharmacy and Nursing leadership as well as other important stakeholders on the frontlines who are preparing and administering HDs. It also includes procedural observations which are an extremely important part of the process.

Within days of the interviews and observations taking place, you will receive a customized report. The results will help enable you to work from an actionable roadmap for safe handling of hazardous drugs.

In sum, it has been our experience that inferior practices can create unnecessary risks and costs across the entire system. These Oncology Care Assessments are designed to help identify opportunities to minimize risks to patients, protect health care workers, save on drug spend and comply with standards.

To learn more, contact your oncology and vascular care territory manager today.



Let's advance oncology care in your facility

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