



Preanalytical Systems

BD Life Sciences

Product Catalogue

This product catalog is valid from January 2018,
in Belgium, The Netherlands & Luxembourg



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About BD

BD is a global medical technology company that is **advancing the world of health** by improving medical discovery, diagnostics and the delivery of care. BD leads in patient and health care worker safety and the technologies that enable medical research and clinical laboratories. The company provides innovative solutions that help advance medical research and genomics, enhance the diagnosis of infectious disease and cancer, improve medication management, promote infection prevention, equip surgical and interventional procedures and support the management of diabetes. The company partners with organizations around the world to address some of the most challenging global health issues. BD has more than 40,000 associates across 50 countries who work in close collaboration with customers and partners to help enhance outcomes, lower health care delivery costs, increase efficiencies, improve health care safety and expand access to health.

Manufacturing in Europe – Plymouth, United Kingdom

This plant manufactures the BD Vacutainer® range of products including blood tubes and venous access devices, and supplies markets across Europe and around the world.

European Distribution Centre in Temse, Belgium

BD in the Benelux plays a major role in the company's ability to meet the growing demand in Eastern and Western Europe, the Middle East and Africa.

After the acquisition of CareFusion in March 2015, BD's European storage and distribution centre was in need of a capacity upgrade. Accordingly, the decision was made in 2016 to purchase a neighbouring plot of land measuring 36,000 sq.m. to house a new, highly automated warehouse, bringing the total surface area covered by BD warehouses up to almost 100,000 sq. m. Boasting five automatic warehouse cranes and a conveyor system, BD's European distribution centre in Temse will be able to process up to 2,000 loaded pallets on a daily basis. The highly automated system allows for the input and output of 260 pallets per hour, and the expansion is a great opportunity to enhance the efficiency of the site as a whole. When all work has been completed, all three buildings will have their own specific role, each dedicated to processing a different type of shipments. The logistical processes in the distribution centre are based on a two-pillar approach. The first pillar is its high-density footprint: a compact design that allows as many processes as possible to take place on as small a surface area as possible - hence the decision to also utilise vertical space. The second principle is goods-to-man: the system must transport goods to employees, rather than the other way round.



BD's approach to sustainability

BD's sustainability strategy addresses the wide range of challenges in our industry, while helping to make a difference on relevant issues that affect society and the planet.

In addition to an ongoing focus on improving environmental performance, our sustainability strategy takes a broader view of BD's role in addressing global societal issues.

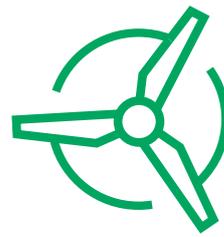
The 2020 Sustainability goals are spread across four pillars;



INNOVATION



ACCESS



EFFICIENCY



EMPOWERMENT

Our 2020 goals



HEALTHCARE SAFETY, OUTCOMES & COST

- ▶ **Innovate** key healthcare processes such as medication management and lab automation.
- ▶ **Develop** innovations and informatics to enable disease management across the care continuum.
- ▶ **Enable** the transition from research into clinical practice.
- ▶ **Provide** solutions that improve healthcare worker and patient safety.



ENVIRONMENTALLY SOUND PRODUCTS & RESILIENT OPERATIONS

- ▶ **Reduce** greenhouse gas emissions.
- ▶ **Eliminate** priority materials of concern.
- ▶ **Minimize** environmental footprint in manufacturing.
- ▶ **Drive** supplier responsibility evaluation methodology.
- ▶ **Improve** life-cycle impacts of products.



HEALTHCARE IN RESOURCE-LIMITED POPULATIONS

- ▶ **Develop** low-cost innovations to address leading causes of mortality and morbidity.
- ▶ **Collaborate** on health system strengthening with leading agencies and NGOs.
- ▶ **Further expand** BD manufacturing, product array and employment in emerging countries.



POSITIVE WORKFORCE & COMMUNITY IMPACTS

- ▶ **Increase** the diversity of our workforce, particularly in leadership roles.
- ▶ **Achieve** best-in-class associate safety performance.
- ▶ **Drive** social impact and associate engagement through volunteer programs.
- ▶ **Partner** with nonprofits to address unmet needs locally and globally.

More information

BD provides an overview of sustainability performance in our annual sustainability report, available at [bd.com/sustainability](https://www.bd.com/sustainability).

BD Laboratory Consulting ServicesSM

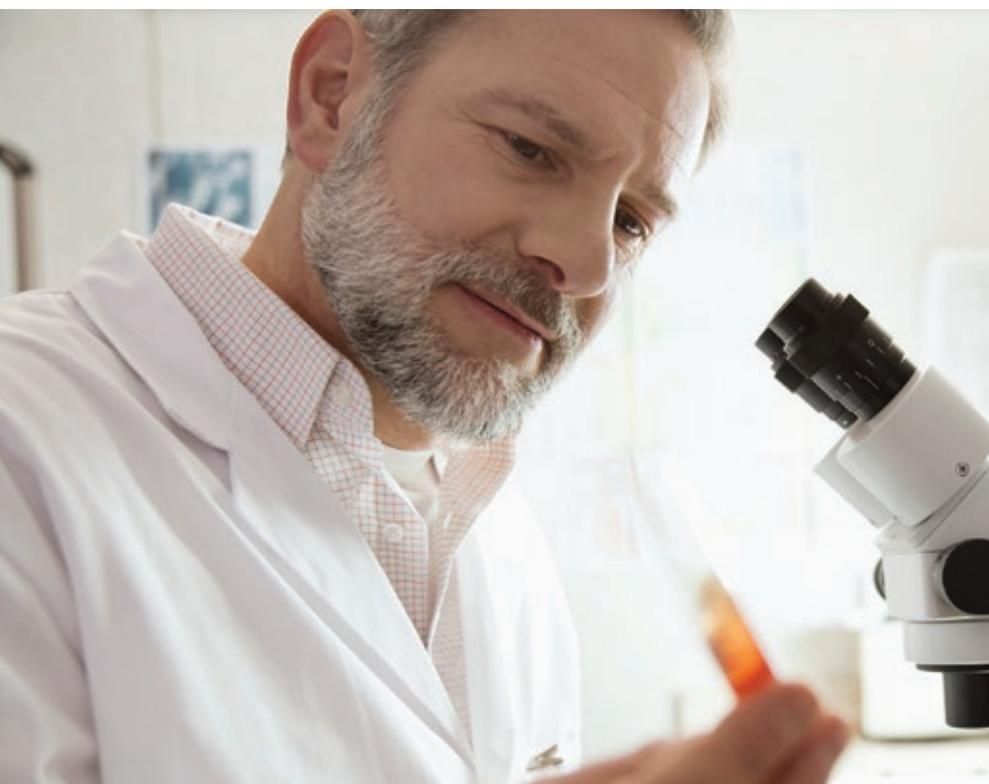
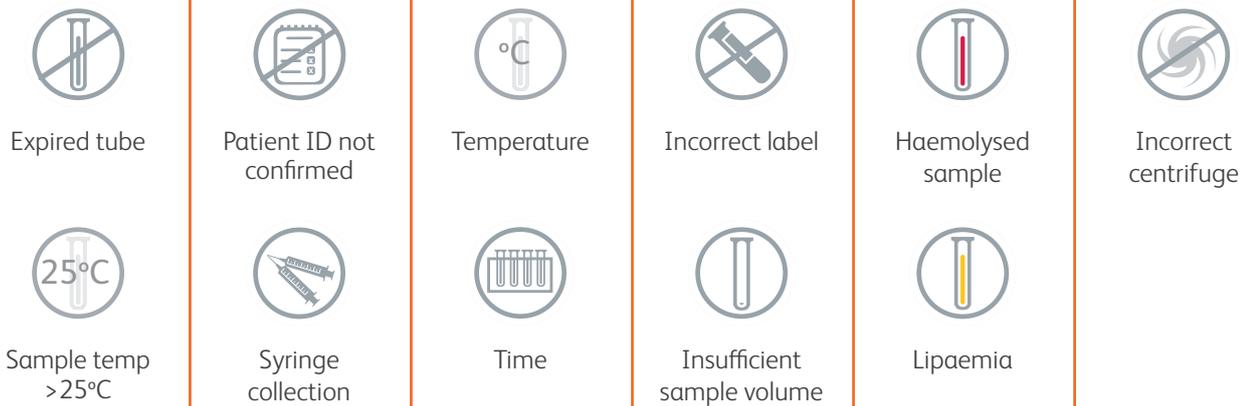
Introducing the BD Preanalytical Quality Check (PAQC) Part of the BD Laboratory Consulting Services Solution

Using our expertise, we examine your institution's preanalytical phase quality and processes from device storage, sample collection up to sample analysis. At each stage of your blood collection process, we identify and monitor possible causes of preanalytical errors to help you understand your current practices versus your hospital's procedures and best practice.

The preanalytical phase



Examples of preanalytical errors



How does the BD Preanalytical Quality Check support your goal of improved quality and compliance?

- Delivered by an experienced team of BD Clinical Specialists
- Final consultation report provides detailed data analysis supporting recommendations for improvements
- Benchmarked results show how well your organisation is performing versus your peers

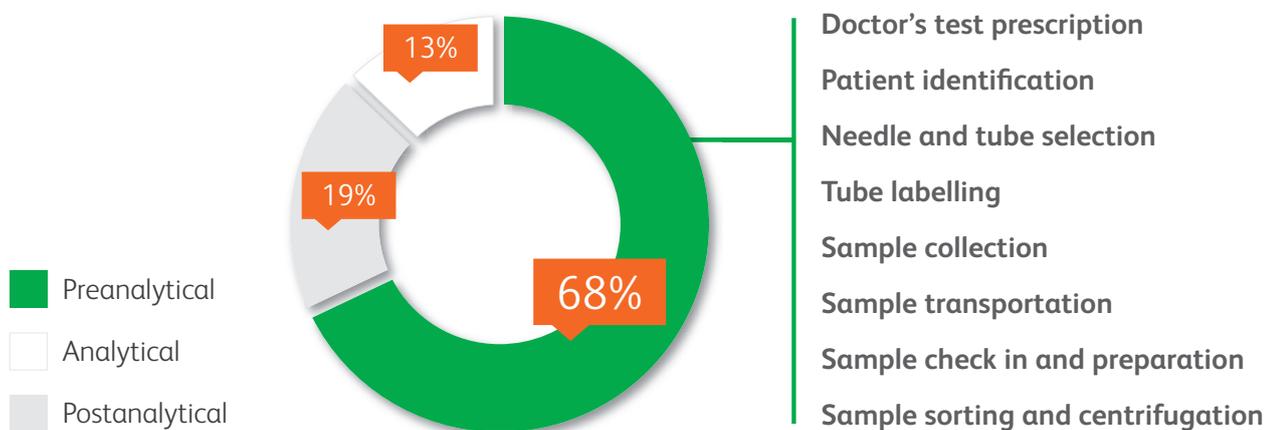
Errors in phlebotomy may lead to patient suffering and compromised patient safety.¹

The quality of the preanalytical phase impacts clinical outcomes.

When it comes to blood collection, the majority of errors occur in the preanalytical phase because it is such a complex process involving many people across multiple geographic sites. Staff outside the laboratory may not realise that preanalytical errors are a significant problem or the impact on test result accuracy.

Patients are demanding that healthcare institutions do a better job in reducing errors, so the laboratory's role in providing a quality service is becoming even more critical.

Where do laboratory test errors occur?^{2,3,4}



Poor sample quality affects compliance to standards and regulations

Meeting laboratory standards such as ISO15189 requires laboratories to document, measure and regularly monitor their procedures for proper sample collection and handling.⁵

So how can busy laboratories already under pressure to balance the provision of quality samples with the demands of clinical and budgetary targets be confident that their systems and processes are working effectively?

Let BD Laboratory Consulting ServicesSM help you improve your processes and ultimately sample quality

BD Laboratory Consulting ServicesSM Preanalytical Best Practices Training

The provision of training and education around the blood collection process can seem an impossible task for any healthcare system when their potential audience is hundreds, maybe thousands of personnel in any given facility. In addition, gaining compliance and achieving best practice can be difficult and staff turnover makes the task even harder. Preanalytical Best Practices Training is an interactive programme designed to embed preanalytical principles and best practice into your organisation.

Produced and run by BD specialists, it contains a series of modules to support best practice in the preanalytical phase of specimen collection and sampling.

1. Simundic AM, Cornes M, Grankvist K, Lippi G, Nybo M, Kovalevska S, Spongl L, Sumarac Z, Church S. Survey of national guidelines, education and training on phlebotomy in 28 European countries: an original report by the European Federation of Clinical Chemistry and Laboratory Medicine (EFLM) working group for the preanalytical phase (WG-PA). Clin Chem Lab Med 2013; 51(8): 1585-1593.
2. Bonini P, Plebani M, Cerotti F, Bubboli F. Errors in laboratory medicine. Clin Chem 2002;48:691-698.
3. Plebani M, Carraro P. Mistakes in a Stat Laboratory: types and frequency. Clin Chem 1997, 43(8):1348-1351.
4. Carraro P & Plebani M. Errors in a Stat Laboratory: types and frequency 10 years later. Clinical Chemistry 2007, 53(7): 1338-1342.
5. International Standard ISO15189 Medical laboratories- Requirements for quality and competence Third edition 2012-11-01

Venous blood sampling

Introduction

BD Vacutainer®

The BD Vacutainer® family of products offers solutions for patient comfort, protecting healthcare professionals as well as streamlining workflow efficiency for clinical diagnostics while ensuring accuracy and reproducibility of blood analysis. These products come from the BD Vacutainer®, the gold standard in specimen collection and a leader in advancing the science of specimen collection for more than 60 years.

BD Vacutainer® Evacuated Blood Collection System

The BD Vacutainer® evacuated blood collection system is the most widely-used blood stabilisation tube in the world.



- CE marked to ensure product **quality**
- **Reproducible** blood draw with each tube having a predetermined vacuum
- Comprehensive range of additives to **stabilise** most blood components
- BD Hemogard™ **safety** closure provides optimal protection for users from blood exposure
- **Sterile** tube and needle ensure no microbiological contamination of samples
- A range of labels to ensure **traceability** of collected patient samples

The **BD Life Sciences** - Preanalytical Systems full range of products includes:

- Safety engineered devices such as the **BD Vacutainer® Eclipse™** blood collection needle and **BD Vacutainer® Push Button UltraTouch™** blood collection sets, which allow for collection from patients of all types with the added benefit of protecting healthcare workers from the risk of needle stick injuries.
- **BD Microtainer®** tubes for paediatric patients and capillary sampling used to collect blood with **BD Lancets**.
- **BD Vacutainer®** urine collection system for the collection and transport of urine samples.
- **BD Vacutainer®** blood collection adapters which are compatible with all BD Infusion devices.
- **BD Critical Care Collection syringes** including safety products for arterial blood collection and analysis.
- A range of **Molecular Diagnostic** and biomarker products.

Venous blood sampling

Order of draw

Recommendations CLSI (NCCLS), Vol. 23, No. 32, 8.10.2

With a Needle:	With a Wingset: With Blood Culture	With a Wingset: Without Blood Culture	Recommended inversions
	Blood Culture Bottles (aerobic, anaerobic)	 Discard tube	N/A
			3-4
 	 	 	5-6
 	 	 	8-10
			8-10
			8-10
Others (ACD, VS, Aprotinine and Thrombine)	Others (ACD, VS, Aprotinine and Thrombine)	Others (ACD, VS, Aprotinine and Thrombine)	8-10

BD Vacutainer® EST™

BD Vacutainer® EST™ has no additives and is suitable as a secondary tube for anti-coagulated blood samples, for example for taking plasma samples from blood bags. The EST can also be used as a discard tube.

BD Vacutainer® EST tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
362725	3.0	13 x 75	No additive	None	PET	See Thru	BD Hemogard™	
364917	11.0	16 x 100	No additive	None	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Colour code - followed by BD as described in ISO 6710:1995 and is used by BD for the majority of our product portfolio. Certain tubes in this catalogue do not follow the established colour code and are intended to enable tube differentiation in process automation and product flow through the laboratory. Our tubes produce a specific type of sample and the cap colour is intended to differentiate from regular tubes. If ordering these tubes, it is important to ensure that the appropriate staff in your organization is aware of these differences. Using the wrong tube for any given test may result in analytical error.

Venous blood sampling

Coagulation analysis

Sodium Citrate

Trisodium citrate is used as an anticoagulant for coagulation investigations. It works as an anticoagulant by forming complexes with metal ions such as calcium, thereby inhibiting the coagulation cascade. Anticoagulation with trisodium citrate is reversible.

BD Vacutainer® Citrate tubes contain buffered trisodium citrate in accordance with recommendations:

- 0.105 M or 0.109 M of buffered trisodium citrate solution, equivalent to 3.2% trisodium citrate
- 0.129 M of buffered trisodium citrate solution, equivalent to 3.8% trisodium citrate

The blood to additive ratio is 9:1.

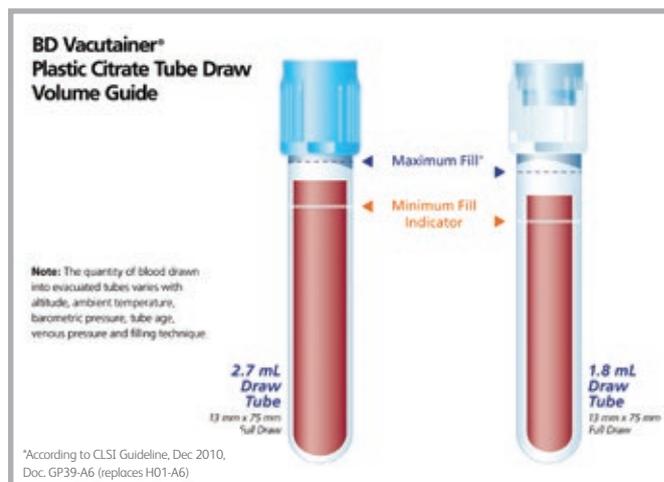
BD Vacutainer® Citrate tubes are also suitable for carrying out special test procedures such as the platelet function test PFA-100®*.

Fill line marking

The significance of the correct ratio of blood to additive for coagulation samples is well documented. The correct fill amount is critical for correct coagulation analysis. All BD Vacutainer® plastic coagulation tubes have a mark indicating the minimum fill level.

Glass tubes

All BD Vacutainer® glass coagulation tubes have a specialised internal silicone coating to minimise contact activation.



BD Vacutainer® plastic (PET/PP) citrate tubes

The plastic citrate tubes made from PET and PP feature innovative tube geometry that minimises tube headspace and associated platelet activation to optimise APTT monitoring of unfractionated heparin patients.

BD Vacutainer® Citrate tubes combine the following advantages:

- Clinically equivalent performance to the recognised global 'Gold Standard', the 4.5mL BD Vacutainer® Glass Buffered Citrate tube^{1,2}.
- Clinically proven in multi-centre clinical trials for coagulation testing across all major patient populations.
- Evaluated with the most widely used coagulation analytical systems.

* PFA-100 is a registered trade mark of Siemens.

1. BD Ref. VS5936: Evaluation of BD Vacutainer® Plus 2.7 and 1.8mL Sodium Citrate Coagulation Tubes Using The ELECTRA 1400™ Analyser, BD, Franklin Lakes, NJ, USA November 2001

2. BD Ref. VS5966: Evaluation of 0.109M BD Vacutainer® Plus Plastic and 0.105M BD Vacutainer® Glass Sodium Citrate Tubes for PT and APTT Using the Sysmex CA - 1500 Analyser, BD, Franklin Lakes, NJ, USA June 2002

Venous blood sampling

Coagulation analysis

Centrifugation conditions

For coagulation analyses different plasma specifications can be obtained from the citrated blood:

- Platelet-rich plasma:
150-200 g for 5 minutes at 18-25°C
- Platelet-poor plasma:
Plastic tubes: 2000-2500 g for 10-15 minutes at 18-25°C
Glass tubes: 1500 g for 15 minutes at 18-25°C
- Platelet-free plasma:
> 3000 g for 15-30 minutes at 18-25°C

BD recommends that glass tubes are not centrifuged at more than 2200 g in a swing-out rotor (for fixed angle rotor not more than 1300g).

Tube mixing

Citrate tubes should be gently inverted 180° and back 3-4 times.



BD Vacutainer® Citrate tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
363047	1.8	13 x 75	Trisodium Citrate (0.109M, 3.2%)	None	PET/PP	Paper	BD Hemogard™	
368273	1.8	13 x 75	Trisodium Citrate (0.109M, 3.2%)	None	PET/PP	See Thru	BD Hemogard™	
363048	2.7	13 x 75	Trisodium Citrate (0.109M, 3.2%)	None	PET/PP	Paper	BD Hemogard™	
364308	2.7	13 x 75	Trisodium Citrate (0.109M, 3.2%)	None	PET/PP	See Thru	BD Hemogard™	
367714	4.5	13 x 75	Trisodium Citrate (0.105M, 3.2%)	None	Glass	Paper	BD Hemogard™	
366575	6.0	13 x 100	Trisodium Citrate (0.105M, 3.2%)	None	Glass	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Coagulation analysis

BD Vacutainer® CTAD tubes

The CTAD solution consists of:

- 0.11 M buffered trisodium citrate solution
- 15 mM theophylline
- 3.7 mM adenosine
- 0.198 mM dipyridamole

The pH value is 5.0.

The additive preserves the platelets and thereby inhibits the release of platelet factor 4.

BD Vacutainer® CTAD tubes are ideal for patients undergoing anticoagulant therapy, but can also be used for routine coagulation analysis.

Centrifugation conditions

1500 g for 15 minutes at 18-25°C

Further information

Clinical and technical information is available on request.



BD Vacutainer® CTAD tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
367562	2.7	13 x 75	CTAD	None	Glass	Paper	BD Hemogard™	
367599	4.5	13 x 75	CTAD	None	Glass	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Serum analysis

Serum tubes

Serum tubes are available in glass and plastic (PET) variants. In glass tubes the surface acts as a clot activator. In plastic tubes silica particles are added as the clot activator. These tubes are labelled with the acronym CAT (Clot Activator Tube).

Tube mixing

Both plastic and glass serum tubes should be gently inverted 180° and back 5-6 times.

Clotting times

The recommended minimum clotting time for the serum tubes is 60 minutes.

Centrifugation conditions

≤ 1300 g for 10 minutes at 18-25°C

Further information

Clinical and technical information is available on request.



BD Vacutainer® Serum tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
368492	2.0	13 x 75	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	
368271	2.0	13 x 75	Silica (Clot Activator)	None	PET	See Thru	BD Hemogard™	
369032	4.0	13 x 75	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	
365904	4.0	13 x 75	Silica (Clot Activator)	None	PET	See Thru	BD Hemogard™	
367624	5.0	13 x 75	No additive	None	Glass	Paper	BD Hemogard™	
367614	5.0	13 x 75	Silicone coated	None	Glass	Paper	BD Hemogard™	
368814	6.0	13 x 100	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	
368815	6.0	13 x 100	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	
367819	6.0	13 x 100	Silica (Clot Activator)	None	PET	See Thru	BD Hemogard™	
367896	10.0	16 x 100	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Serum analysis

BD Vacutainer® SST™ II Advance tubes

These tubes contain an inert gel barrier that separates the serum from the blood clot during centrifugation, preventing contamination of the serum. For example, in serum certain analytes such as potassium, phosphorus and glucose should be separated from the cells within a few hours - otherwise the results will be significantly impacted. Using BD SST™ II Advance tubes, routine analytes in clinical chemistry such as potassium are still stable after a week of storage at 2-8°C. Clinical evaluation of special chemistries such as therapeutic drugs, proteins, peptides, steroids and vitamins demonstrates a high degree of stability within the BD SST™ II Advance^{1,2,3}.

BD Vacutainer® SST™ II Advance tubes enable faster centrifugation times of 5 minutes at 3000 g.

The main advantages of gel tubes versus non-gel tubes are:

- Stable barrier between serum and clotted blood during transportation and storage, leading to better analyte stability.
- Better sample quality.
- Optimisation of the work flow: short centrifugation time, sample processing and archiving in the primary tube.
- No requirement for secondary tubes, reducing the possibility of mis-identification.

Clotting times

The minimum recommended clotting time for BD Vacutainer® SST™ II Advance tubes is 30 minutes.

Tube mixing

Serum Separation Tubes should be gently inverted 180° and back 5-6 times.



Centrifugation conditions

1300-2000 g for 10 minutes or alternatively, according to the BD study VS 7228 3000 g for 5 minutes at 18-25°C⁴.

Storage conditions

BD Vacutainer® SST™ II Advance should be stored at 4-25°C and protected from direct sunlight during storage. Cooling of the tube by or during centrifugation can affect the movement capability of the gel. The optimum separation of serum and coagulated blood is achieved at a temperature of 20-25°C.

Further information

Clinical and technical information is available on request.

1. BD White Paper VS7050: Therapeutic Drug Compatibility in BD Vacutainer® SST™ II Plus Tubes, 2004

2. BD White Paper VS7051: Performance of BD Vacutainer® SST™ II Plus Tubes for Special Chemistry Testing, 2004

3. BD White Paper VS5778: Comparison of BD Vacutainer® SST™ Plus Tubes with SST™ II Plus Tubes for Common Analytes, 2001

4. BD White Paper VS7228: Performance of BD Vacutainer® SST II Advance tubes at Four and Five Minute Centrifugation Times, 2004

Venous blood sampling

BD Vacutainer® SST™ II Advance tubes

Cat. no.*	Draw volume (mL)	Size (mm)	Additives	Separator	Material	Label	Cap closure	Cap colour
366882	2.5*	13 x 75	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
367957	3.5	13 x 75	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368498	3.5	13 x 75	Silica (Clot Activator)	Gel	PET	See Thru	BD Hemogard™	
368965	3.5	13 x 75	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368966	3.5	13 x 75	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368967	3.5	13 x 75	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368879	4.0*	13 x 100	Silica (Clot Activator)	Gel	PET	See Thru	BD Hemogard™	
367955	5.0	13 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
366566	5.0	13 x 100	Silica (Clot Activator)	Gel	PET	See Thru	BD Hemogard™	
368968	5.0	13 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368969	5.0	13 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
368970	5.0	13 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
366444	6.0*	16 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
367953	8.5	16 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	
366644	8.5	16 x 100	Silica (Clot Activator)	Gel	PET	See Thru	BD Hemogard™	
366468	8.5	16 x 100	Silica (Clot Activator)	Gel	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

*These tubes can reduce the risk of haemolysis.

Venous blood sampling

Serum analysis



BD Vacutainer® Rapid Serum Tube (RST)

This tube combines the advantages of a thrombin-based clot activator with a gel barrier, enabling rapid results and extended stability.

The main advantages of BD RST versus other tubes are:

- Produces high quality serum¹.
- These tubes can be centrifuged 5 minutes after the blood sample is taken.
- Stable barrier between serum and clotted blood during transportation and storage, therefore better analyte stability.
- Optimisation of the work flow: short centrifugation time, sample processing and archiving in the primary tube.
- No requirement for secondary tubes reducing the possibility of misidentification.

Clotting times

The minimum recommended clotting time for BD RST is 5 minutes.

Tube mixing

Rapid Serum Tubes should be gently inverted 180° and back 5-6 times.

Centrifugation conditions

4000 g for 3 minutes at 23-27 °C
2000 g for 4 minutes at 23-27 °C
1500-2000 g for 10 minutes at 23-27 °C

Further information

Clinical and technical information is available on request.

BD Vacutainer® Rapid Serum tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
368774	5.0	13 x 100	Thrombin based medical clotting agent	Gel	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

BD Vacutainer® Thrombin tubes

The thrombin-based clot activator enables rapid clotting of the blood.

Clotting times

The minimum recommended clotting time for the Thrombin tubes is 5 minutes.

Centrifugation conditions

≤ 1300 g for 10 minutes at 18-25°C

BD Vacutainer® Thrombin tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
367817	4.8	13 x 75	Thrombin	None	PET	Paper	BD Hemogard™	
367811	6.0	13 x 100	Thrombin	None	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Plasma analysis

Lithium Heparin / Sodium Heparin

BD Vacutainer® plasma tubes for clinical chemistry are available with spray-dried sodium heparin or lithium heparin additives. Heparin acts as an anticoagulant by creating a complex with antithrombin III. This complex inhibits thrombin and the activated factor X and thus prevents coagulation.

The optimum anticoagulation is achieved in these tubes by the use of 17 IU pharmaceutical grade heparin per mL of blood. The lithium heparin in BD Vacutainer® tubes is spray dried onto the inner walls to achieve the best possible solubility. For clinical chemistry, lithium heparin is generally preferred over sodium heparin.

Tube mixing

To avoid micro-clotting, mix the BD Vacutainer® Heparin tube with 8-10 inversions immediately after the blood sample has been taken.



Centrifugation conditions

≤ 1300 g for 10 minutes at 18-25°C

Further information

Clinical and technical information is available on request.

BD Vacutainer® Heparin tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
368494	2.0	13 x 75	Lithium Heparin	None	PET	Paper	BD Hemogard™	
368272	2.0	13 x 75	Lithium Heparin	None	PET	See Thru	BD Hemogard™	
368884	4.0	13 x 75	Lithium Heparin	None	PET	Paper	BD Hemogard™	
368496	4.0	13 x 75	Lithium Heparin	None	PET	See Thru	BD Hemogard™	
367869	4.0	13 x 75	Sodium Heparin	None	PET	Paper	BD Hemogard™	
368886	6.0	13 x 100	Lithium Heparin	None	PET	Paper	BD Hemogard™	
368889	6.0	13 x 100	Lithium Heparin	None	PET	See Thru	BD Hemogard™	
367876	6.0	13 x 100	Sodium Heparin	None	PET	Paper	BD Hemogard™	
367526	10.0	16 x 100	Lithium Heparin	None	PET	Paper	BD Hemogard™	
368480	10.0	16 x 100	Sodium Heparin	None	Glass	Paper	Conventional	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Plasma analysis

NEW BD Vacutainer® Barricor™ Plasma Blood Collection Tube

BD Vacutainer® Barricor™ is a revolutionary new blood collection tube that delivers a consistently fast, clean, high quality plasma sample to enable the most accurate results.

The design complements the BD Vacutainer® evacuated blood collection tubes, and continues the BD heritage of ensuring best practice in the collection, transportation and processing of blood samples.

BD Barricor™ product features have been designed to ensure optimal performance. The cutting-edge mechanical separator speeds up throughput and enables workflow optimisation by harnessing the power of plasma.

The main advantages of mechanical separation versus gel tubes are:

- Superior sample quality than Plasma gel tube - 47% fewer platelets versus BD PST™ II¹
- Separation in 3 minutes at 4000 g²
- Eliminates the risk of gel contamination of the sampling probe, causing probe blockages, analyser downtime and costly maintenance.
- Greater range of analytes can be tested in a single tube e.g. therapeutic drugs³
- Longer stability of analytes versus current plasma gel separator tubes⁴
- Reduced temperature sensitivity in storage

Tube mixing

To avoid micro-clotting, mix the BD Barricor™ tube with 8-10 inversions immediately after the blood sample has been taken.

Centrifugation conditions

4000 g for 3 minutes

3000 g for 5 minutes

2500 g for 7 minutes

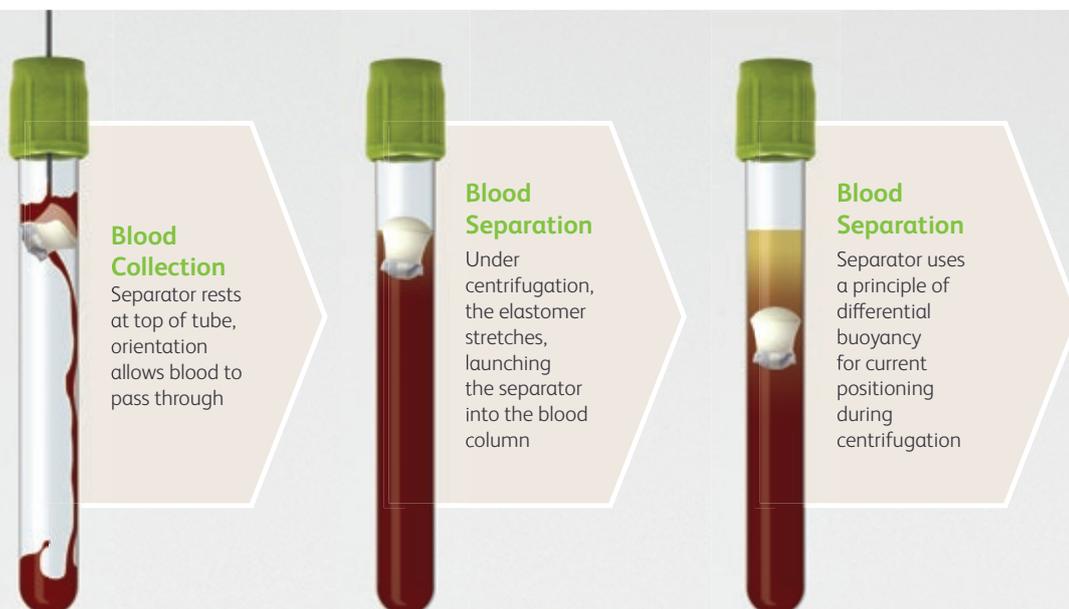
1850 g for 10 minutes

For infectious disease testing, centrifuge at 3000 g for 10 minutes⁵.

See www.bd.com/ifu

Further information

Clinical and technical information is available on request.



1. BD White Paper VS9195: Evaluation of Specimen Quality in BD Vacutainer® Barricor™ Tubes with Respect to Visual Observations and Cell Counts in Plasma as Compared with BD Vacutainer® PST™ II Tubes, 2016

2. BD White Paper VS9192: Evaluation of Analyte Performance (including cell count, plasma yield, visuals) at Various Centrifugation Conditions (optimum vs recommended), 2016

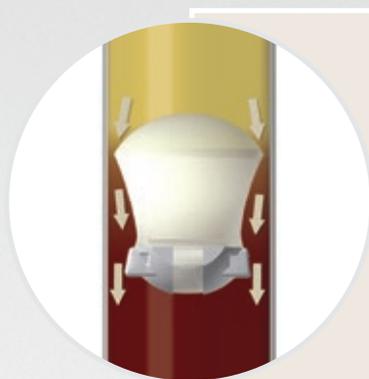
3. BD White Paper VS9168: Comparisons of the BD Vacutainer® Barricor™ Plasma Blood Collection Tube with the BD Vacutainer® PST™ II Tube and BD Vacutainer® Serum Tube for Selected Therapeutic Drugs, 2016

NEW

BD Vacutainer® Barricor™ tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
365050	3.0	13 x 75	Lithium Heparin	Mechanical separator**	PET	Paper	BD Hemogard™	
365054	3.0	13 x 75	Lithium Heparin	Mechanical separator**	PET	See Thru	BD Hemogard™	
365053	3.5	13 x 100	Lithium Heparin	Mechanical separator**	PET	Paper	BD Hemogard™	
365049	4.5	13 x 100	Lithium Heparin	Mechanical separator**	PET	Paper	BD Hemogard™	
365052	4.5	13 x 100	Lithium Heparin	Mechanical separator**	PET	See Thru	BD Hemogard™	
365081	5.0	13 x 100	Lithium Heparin	Mechanical separator**	PET	See Thru	BD Hemogard™	
365056	5.5	13 x 100	Lithium Heparin	Mechanical separator**	PET	Paper	BD Hemogard™	
365057	5.5	13 x 100	Lithium Heparin	Mechanical separator**	PET	See Thru	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000



Blood Separation

When stretched, channels are created around the separator allowing blood cells to flow out of the plasma – a feature that differentiates BD Barricor™ from gel tubes



Blood Separation

When the centrifuge slows, the elastomer returns to its original shape forming a seal between the plasma above and blood cells below, creating a stable robust barrier

4. BD White Paper VS9295: Within-Tube Stability of Selected Routine Chemistry Analytes and Immunoassays in BD Vacutainer® Barricor™ Tubes at Multiple Time Post Centrifugation, 2016.

5. BD White Paper VS9236: Comparison of BD Vacutainer® Barricor™ Tubes with BD Vacutainer® PST™ II, SST™ II and Serum Tubes for Selected Diagnostic Infectious Disease Marker Assays, 2016.

** Mechanical separator: Thermoplastic Elastomer (TPE) & High Density Polypropylene

Venous blood sampling

Plasma analysis

BD Vacutainer® PST™ II tubes

These tubes contain an inert gel barrier and spray-dried lithium heparin additive. The inert barrier separates the plasma from the blood cells during centrifugation, preventing contamination of the plasma. For example, in plasma certain analytes such as potassium, phosphorus and glucose should be separated from the cells within a few hours, otherwise the results will be significantly impacted. Using BD PST™ II tubes, routine analytes in clinical chemistry such as potassium are still stable after 24 hours storage at 2-8°C. Clinical evaluation of special chemistries such as therapeutic drugs, proteins, peptides, steroids and vitamins demonstrates a high degree of stability within the BD PST™ II^{1,2,3}.

BD Vacutainer® PST™ II tubes enable faster centrifugation times of 5 minutes at 3000 g.

The main advantages of gel tubes versus non-gel tubes are:

- Stable barrier between plasma and clotted blood during transportation and storage, therefore better analyte stability.
- Better sample quality.
- Optimisation of the work flow: short centrifugation time, sample processing and archiving in the primary tube.
- No requirement for secondary tubes, reducing the possibility of misidentification.

Effects of temperature

BD Vacutainer® PST™ II should be stored at 4-25°C and

BD Vacutainer® PST™ II tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
367374	3.0	13 x 75	Lithium Heparin	Gel	PET	Paper	BD Hemogard™	
368497	3.0	13 x 75	Lithium Heparin	Gel	PET	See Thru	BD Hemogard™	
367376	4.5	13 x 100	Lithium Heparin	Gel	PET	Paper	BD Hemogard™	
366567	4.5	13 x 100	Lithium Heparin	Gel	PET	See Thru	BD Hemogard™	
367378	8.0	16 x 100	Lithium Heparin	Gel	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

1. BD White Paper VS5919: Comparison of BD Vacutainer® PST™ II Plastic Tubes to BD Vacutainer PST™ Plastic Tubes for 22 Routine Chemistry Analytes and 3 Cardiac (STAT) Analytes, 2003
 2. BD White Paper VS5925: Analyte Stability Supports Extended Use of Plasma Collected in BD Vacutainer PST™ II Plastic Tubes, 2001
 3. BD White Paper VS7597: A comparative evaluation of PST II with Lithium Heparin Plus and Serum Plus for selected hormones, therapeutic drugs, tumor markers and other chemistry analytes, 2008
 4. BD White Paper VS7513: Performance of BD Vacutainer® PST™ II PLUS Tubes at Four and Five Minute Centrifugation Times, 2002



protected from direct sunlight during storage. Cooling of the tube by or during centrifugation can affect the movement. The optimum separation of sediment and plasma is achieved at a temperature of 20-25°C.

Tube mixing

To avoid micro-clotting, mix the BD Vacutainer® PST™ II tube with 8-10 inversions immediately after the blood sample has been taken.

Centrifugation conditions

1300-2000 g for 10 minutes at 18-25°C
 or alternatively, according to BD study VS 7513⁴
 3000 g for 5 minutes at 18-25°C

Further information

Clinical and technical information is available on request.

Venous blood sampling

Haematology

EDTA

EDTA salts (ethylenediaminetetraacetic acid) are used to anticoagulate whole blood for haematological investigations, as the cellular components of the blood are particularly well preserved by EDTA. The anticoagulation is achieved by the EDTA forming complexes with metal ions such as calcium, therefore inhibiting the coagulation cascade. Anticoagulation with EDTA is irreversible.

The EDTA concentration in BD Vacutainer® tubes is 1.8 mg/mL of whole blood, as recommended by the ICSH (International Council Society of Haematology)¹. The ICSH recommends

dipotassium EDTA salt (K₂EDTA) for haematological investigation. BD Vacutainer® plastic (PET) tubes are available with spray dried K₂EDTA and K₃EDTA.



Tube mixing

To avoid micro-clotting, mix the EDTA tube with 8-10 inversions immediately after the blood sample has been taken.

Further information

Clinical and technical information is available on request.

BD Vacutainer® K₂EDTA tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
368841	2.0	13 x 75	K ₂ EDTA	None	PET	Paper	BD Hemogard™	
368274	2.0	13 x 75	K ₂ EDTA	None	PET	See Thru	BD Hemogard™	
368856	3.0	13 x 75	K ₂ EDTA	None	PET	Paper	BD Hemogard™	
368499	3.0	13 x 75	K ₂ EDTA	None	PET	See Thru	BD Hemogard™	
368861	4.0	13 x 75	K ₂ EDTA	None	PET	Paper	BD Hemogard™	
367862	4.0	13 x 75	K ₂ EDTA	None	PET	See Thru	BD Hemogard™	
367864	6.0	13 x 100	K ₂ EDTA	None	PET	Paper	BD Hemogard™	
365900	6.0	13 x 100	K ₂ EDTA	None	PET	See Thru	BD Hemogard™	
367525	10.0	16 x 100	K ₂ EDTA	None	PET	Paper	BD Hemogard™	

BD Vacutainer® K₃EDTA tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
367836	2.0	13 x 75	K ₃ EDTA	None	PET	Block	BD Hemogard™	
368857	3.0	13 x 75	K ₃ EDTA	None	PET	Block	BD Hemogard™	
368860	4.0	13 x 75	K ₃ EDTA	None	PET	Block	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

1. International Council for Standardisation in Haematology and: Expert Panel on Cytometry, Recommendations of the International Council for the Standardisation in Haematology for Ethylenediaminetetraacetic Acid Anticoagulation of Blood for Blood Cell Counting and Sizing. Am J Clin Pathol 1993;100: 371-372.

Venous blood sampling

Glucose analysis

Glucose and lactate determination

BD Vacutainer® glucose tubes are available in Sodium Fluoride / Potassium Oxalate, Sodium Fluoride / Sodium EDTA or Sodium Fluoride / Sodium Heparin additive combinations.

Glucose values in unpreserved blood samples decrease quickly after collection as glucose is metabolised by the blood cells. The Fluoride additive stops the enzymatic activity of the glycolytic pathway.

HbA1c determination

One advantage of the Fluoride / EDTA tube over the Fluoride / Oxalate tube is that the marker HbA1c can be determined from the same tube, so no additional tube sample needs to be taken.

Tube mixing

To avoid micro-clotting, mix the BD Vacutainer® Glucose tube with 8-10 inversions immediately after the blood sample has been taken.



Centrifugation conditions

≤1300 g for 10 minutes at 18-25°C

Further information

Clinical and technical information is available on request.

BD Vacutainer® tubes for glucose and lactate determination

Cat No.	Volume (mL)	Size (mm)	Specification	Material	Label	Cap closure	Cap colour
368920	2	13x75	Fluoride (2.5mg/mL)/ Oxalate (2mg/mL)	PET	Paper	BD Hemogard™	
368921	4	13x75	Fluoride (2.5mg/mL)/ Oxalate (2mg/mL)	PET	Paper	BD Hemogard™	
368201	5	13X100	Fluoride (2.5mg/mL)/ Oxalate (2mg/mL)	PET	Paper	BD Hemogard™	
368520	2	13x75	Fluoride (1.5mg/mL)/ EDTA (3mg/mL)	PET	Paper	BD Hemogard™	
368521	4	13x75	Fluoride (1.5mg/mL)/ EDTA (3mg/mL)	PET	Paper	BD Hemogard™	
367764	5	13x75	Sodium Fluoride (4mg/mL)/ Sodium Heparin (28IU/mL)	Glass	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

ESR

BD Vacutainer® Seditainer™ tubes for use with the BD Sedi-20™ and BD Sedi-40™ systems

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
366676	1.8	8 x 100	Sodium Citrate (0.105M)	None	Glass	Paper	Conventional	

BD Seditainer™ System

The BD Seditainer™ tubes are designed for ESR determination without the use of sedimentation pipettes. The blood is taken directly into the BD Seditainer™ tubes and mixed by inversion 8-10 times. Immediately before the tubes are placed in the BD Seditainer™ manual ESR stand for measurement, the tubes must be mixed again. After one or two hours the results are read. The BD Seditainer™ stand holds a maximum of 10 BD Seditainer™ tubes and has a height adjustable zero mark. The measurement results achieved correspond to the Westergren method.



Tube mixing

ESR (Erythrocyte Sedimentation Rate) tubes should be gently inverted 180° and back 8-10 times.

BD Vacutainer® Manual ESR tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
367740	1.6	13 x 75	Sodium Citrate (0.129M)	None	Glass	Paper	BD Hemogard™	
366674	5.0	10.25 x 120	Sodium Citrate (0.105M)	None	Glass	Paper	BD Hemogard™	
366666	5.0	10.25 x 120	Sodium Citrate (0.105M)	None	Glass	Paper	Conventional	

All tubes are supplied in boxes of 100 / cases of 1000

BD Vacutainer® Seditainer™ Manual ESR stand

Cat. no.	Description	Quantity
366016	BD Seditainer™ Manual ESR Stand	1



Venous blood sampling

Speciality tubes

BD Vacutainer® Crossmatch tubes

BD Vacutainer® Crossmatch tubes are available with either EDTA or clot activator additives. The BD Vacutainer® Crossmatch tube is identified by:

- a pink cap
- large block label



BD Vacutainer® Crossmatch tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
366164	4.0	13 x 75	K ₂ EDTA (Spray)	None	PET	Crossmatch	BD Hemogard™	
367941	6.0	13 x 100	K ₂ EDTA (Spray)	None	PET	Crossmatch	BD Hemogard™	
368817	6.0	13 x 100	Silica (Clot Act)	None	PET	Crossmatch	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

BD Vacutainer® K₃EDTA / Aprotinin tubes

BD Vacutainer® K₃EDTA tubes contain Aprotinin, a protein stabiliser

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
361017	5.0	13 x 75	Aprotinin (250 IU) / K ₃ EDTA	None	Glass	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Venous blood sampling

Speciality tubes

Trace element determination

BD Vacutainer® tubes for the analysis of trace elements have controlled amounts of trace elements. Maximum concentrations are defined for the trace elements antimony, arsenic, lead, chromium, iron, cadmium, calcium, copper, magnesium, manganese, mercury, selenium and zinc that could be extracted by blood from the tube itself or the stopper.

Every production batch is checked and only released if the given maximum value is not exceeded. The values given take into account the use of a straight BD needle.

BD Vacutainer® Trace Element Tubes Contamination Upper Limits

Analyte	Glass µg/L	PET µg/L	Analyte	Glass µg/L	PET µg/L
Antimony	0.8	*	Lead	2.5	0.3
Arsenic	1.0	0.2	Magnesium	60	40
Cadmium	0.6	0.1	Manganese	1.5	1.5
Calcium	400	150	Mercury**	-	3.0
Chromium	0.9	0.5	Selenium	-	0.6
Copper	8.0	5.0	Zinc	40	40
Iron	60	25			

* BD Vacutainer® Trace Element PET tubes should not be used for Antimony testing.

** Water extraction analysed by cold vapour, all others ICP-MS

Tube mixing

ACD tubes should be gently inverted 180° and back 8-10 times.

BD Vacutainer® tubes for trace element determination

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
368380	6.0	13 x 100	Silica (Clot Activator)	None	PET	Paper	BD Hemogard™	
368381	6.0	13 x 100	K ₂ EDTA	None	PET	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Blood group determination

The anti-coagulant ACD (Acid Citrate Dextrose) is used for the conservation of erythrocytes. ACD is available in two solutions, A and B, each with different mixture ratios.

Anti-coagulant	ACD solution A	ACD solution B
Na ₃ citrate	3.30 mg/mL	1.89 mg/mL
Citric acid	1.20 mg/mL	0.69 mg/mL
Dextrose	3.68 mg/mL	2.10 mg/mL
Potassium sorbate	0.03 mg/mL	0.03 mg/mL

The figures represent the final concentration in the blood in each case.



BD Vacutainer® tubes for blood group determination

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
366645	8.5	16 x 100	ACD Solution A	None	Glass	Paper	Conventional	
367756	6.0	13 x 100	ACD Solution B	None	Glass	Paper	BD Hemogard™	

All tubes are supplied in boxes of 100 / cases of 1000

Clinical instrumentation

Automated ESR solutions

Helping improve clinical outcomes

The BD Sedi-20™ and BD Sedi-40™, in combination with the tube technology of the BD Seditainer™, provide an automated solution to help improve clinical outcomes by standardising Erythrocyte Sedimentation Rate (ESR) determinations. This results in more accurate, timely results, a more efficient workflow and helps improve patient care.

Improved efficiency

- 30 minute analysis time – half the time of a 1 hour modified Westergren.

Quality results

- Standardised analysis utilising the established BD Seditainer™ tubes.
- Clinical equivalence to the gold standard Westergren¹, incorporating temperature correction.²
- Provides equivalent performance to BD Sedi-15™.³

Enhanced user safety

- The BD Sedi-20™ and BD Sedi-40™, in combination with the BD Seditainer™ tube (Cat. no. 366676), deliver a closed system for enhanced user safety by reducing exposure to hazardous materials.



Additional features of the BD Sedi-40™

- On board QC management
- Integrated barcode reader for fast, accurate sample ID entry
- Integrated tube mixing
- Integrated printer
- Connectivity capabilities for automatic data transmission

BD Sedi-20™ and BD Sedi-40™ instruments

Cat. no.	Description	Pack quantity
361545	BD Sedi-20™ instrument	1
361546	BD Sedi-40™ instrument	1
361547	DUO-MIX Mixer	1
361548	Barcode Reader - BD Sedi-20™ / BD Sedi-40™	1
361549	Printer BD Sedi-20™ / BD Sedi-40™	1
361550	Printer Paper BD Sedi-20™ / BD Sedi-40™	5
361555*	ACCU-SED® Control Kit Normal and Abnormal Control Kit	4

* Recommended QC materials for BD Sedi-20™ & BD Sedi-40™ control ranges. DUO-MIX and ACCU-SED® are trademarks of Elitech Group BV.

1. BD White Paper VS9114: An Evaluation of Erythrocyte Sedimentation Rate Determination using BD Sedi-20™ and BD Sedi-40™ in Comparison to the Westergren Method, 2013

2. Manley, R.W. The effect of room temperature on erythrocyte sedimentation rate and its corrections. Journal of Clinical Pathology, 10, 354, 1957

3. BD White Paper VS9253: An Evaluation of Erythrocyte Sedimentation Rate Determination using BD Sedi-20™ and BD Sedi-40™ Instruments in Comparison with the existing BD Sedi-15™ Instrument, 2016

Cell and biomarker preservation

BD CPT™ blood collection tubes

BD CPT™ (Cell Preparation Tube)

The BD CPT™ contains FICOLL™* and is a one-step system to provide a simple method for isolating Peripheral Blood Mononuclear Cells (PBMC) - lymphocytes and monocytes from whole blood.

The tube provides a sample-to-yield solution, eliminating stages of blood transfer, preparation of FICOLL™, and manual gradient separation. Waiting time is significantly reduced as centrifugation can be carried out with the brakes enabled.

The tube can yield up to 15 million PBMCs with centrifugation times of 15 or 20 minutes. The BD CPT™ tube enables:

- Preparation and consistency
 - Standardised process when compared to manual FICOLL™ gradient separations
 - Reproducibility between sample preparations and technical operators
 - Less blood exposure for laboratory staff
- Faster separations
 - Blood draw to centrifuge - FICOLL™ is contained in the tube enabling fast gradient separation
 - Reduce waiting times during centrifugation with brakes enabled
- Post separation
 - The gel barrier provides clear cell separation and prevents re-mixing
 - Transport of separated sample can be used in the primary CPT tube
 - Cells are stable in the primary tube for up to 24 hours, depending on down stream application



The BD CPT™ tube is CE marked for *in vitro* diagnostic use.

Tube mixing

Cell Preparation Tubes should be gently inverted 180° and back 8-10 times.

Further information

Clinical and technical information is available on request.

Centrifugation conditions

Sodium Heparin 1500-1800 g for 15 minutes at 18-25°C
Sodium Citrate 1500-1800 g for 20 minutes at 18-25°C

BD Vacutainer® CPT™ tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
362781	4.0	13 x 100	Sodium Citrate 0.45mL 0.1M / 1.0mL FICOLL™	Gel	Glass	Transparent	Conventional	
362782	8.0	16 x 125**	Sodium Citrate 1.0mL 0.1M / 2.0mL FICOLL™	Gel	Glass	Transparent	Conventional	
362780	8.0	16 x 125**	Sodium Heparin 132 USP Units in 1.0mL PBS / 2.0mL FICOLL™	Gel	Glass	Transparent	Conventional	

All tubes are supplied in boxes of 60

Available to buy online at www.bdbiosciences.com - search CPT

* FICOLL is a registered trademark of GE Healthcare Companies.

** Please note: These tubes are longer than conventional blood collection tubes. Please ensure that the tubes are free to swing when placing them into the centrifuge.

Cell and biomarker preservation

BD PPT™ blood collection tubes

BD PPT™ (Plasma Preparation Tube)

The BD PPT™ tube is used for the separation of undiluted plasma from whole blood for molecular diagnostic test methods. These methods include, but are not limited to, polymerase chain reaction (PCR) or branched DNA (bDNA) amplification techniques. The BD PPT™ tube is also applicable to other MDx analysis where an undiluted plasma specimen is required. The BD PPT™ tube ensures:

- Safe handling of infectious samples
The user is not exposed to blood samples enclosed in the BD Vacutainer® tube. Plasma is prepared in the closed BD Vacutainer® tubes that can be directly transported, eliminating the need for aliquoting from primary BD Vacutainer® tube to secondary container and re-labelling.
- Plasma quality is maintained
The gel barrier prevents plasma from coming in contact with red blood cells to maintain stability of the plasma. Viral load will be stable for:
 - 6 hours - whole blood at room temperature
 - 24 hours - separated plasma at room temperature
 - 5 days - separated plasma refrigerated at 4°C.

Plasma may be stored frozen in situ in the BD PPT™ tube. However, freezing plasma in situ in BD PPT™ tubes may be prohibited for some assays and the assay manufacturer's guidelines should be consulted.

The BD PPT™ tube is CE marked and FDA 510(k) approved for *in vitro* diagnostic use.



Tube mixing

Plasma Preparation Tubes should be gently inverted 180° and back 8-10 times.

Further information

Clinical and technical information is available on request.

Centrifugation conditions

1100 g for 10 minutes at 18-25°C

BD Vacutainer® PPT™ tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
362795	5.0	13 x 100	K ₂ EDTA	Gel	PET	See Thru	BD Hemogard™	
362799	8.5	16 x 100	K ₂ EDTA	Gel	PET	See Thru	BD Hemogard™	

All tubes are supplied in cases of 1000

Available to buy online at www.bdbiosciences.com - search PPT

Cell and biomarker preservation

PAXgene® Blood RNA System

PAXgene® Blood RNA System

The PAXgene® Blood RNA Tube (IVD) is a development of PreAnalytiX, the joint venture between QIAGEN and BD. The PAXgene® Blood RNA System consists of the PAXgene® Blood RNA Tube and the PAXgene® Blood RNA Isolation Kit available from QIAGEN.

The PAXgene® Blood RNA Tube contains a proprietary reagent that immediately stabilises cellular RNA. The PAXgene® Blood RNA tube ensures:

- Immediate stabilisation of cellular RNA in whole blood
The cellular RNA will be stable in the PAXgene® tube for:
3 days – whole blood at room temperature (18-25°C)
5 days – whole blood refrigerated (2-8°C)
8 years – whole blood frozen (-20 and -70°C)
- RNA yield
The yield, dependent upon the sample and the RNA isolation kit, is $\geq 3 \mu\text{g}$ for $> 95\%$ of the samples (healthy subjects with a leukocyte count of $4.8 - 11 \times 10^6/\text{mL}$)
- RNA quality
The A_{260}/A_{280} ratio is 1.8-2.2 for 95% of all samples. Genomic DNA contamination is $\leq 1\%$ in $\geq 95\%$ of all samples
- Stabilisation of miRNA
The PAXgene® Blood miRNA Kit*, for manual or automatic purification of miRNA after blood collection with a PAXgene® Blood RNA Tube, is available from QIAGEN



- Increased traceability
The PAXgene® Blood RNA Tube has a human readable and 2D barcode label. Each tube has a unique identification code that can be associated to the patient blood specimen

For more information please visit www.PreAnalytiX.com.

The PAXgene™ Blood RNA System is CE marked and FDA 510(k) cleared for *in vitro* diagnostic use.

Further information

Clinical and technical information is available on request.

PAXgene® Blood RNA tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
762165	2.5	16 x 100	Proprietary	None	PET	Paper with 2D barcode	BD Hemogard™	

All tubes are supplied in cases of 100

Available to buy online at www.bdbiosciences.com - search PAXgene RNA

* The PAXgene® Blood miRNA Kit is for research use only (RUO)

Cell and biomarker preservation

PAXgene® Blood DNA Tube

PAXgene® Blood DNA System

The PAXgene® Blood DNA Tube (IVD) is a development of PreAnalytiX, the joint venture between QIAGEN and BD. The performance of the PAXgene® Blood DNA Tube has been verified with automated and manual DNA isolation kits available from QIAGEN using magnetic bead, silica membrane and precipitation technologies.

The PAXgene® Blood DNA Tube contains a proprietary EDTA formulation that immediately stabilises intracellular DNA. The PAXgene® Blood DNA Tube ensures sufficient DNA quantity and quality for molecular diagnostic assays that require DNA from whole blood.

Documented DNA stability and performance data

DNA samples purified from the 2.5mL draw volume tube will have a ratio (A_{260}/A_{280}) of 1.7-1.9 and a DNA concentration of $\geq 12.5\text{ng DNA}/\mu\text{l}$ eluate for 95% of samples and ensure DNA stability after blood collection for:

- 14 days at room temperature (18-25°C)
- 28 days refrigerated (2-8°C)
- 3 days at 35°C

Increased traceability

The PAXgene® Blood DNA Tube (IVD) has a human readable and 2D barcode label. Each tube has a unique identification code that can be associated to the patient blood specimen.

PAXgene® Blood DNA Tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
761165	2.5	13 x 75	K ₂ EDTA	None	PET	Paper with 2D barcode	BD Hemogard™	

All tubes are supplied in cases of 100

Available to buy online at www.bdbiosciences.com - search PAXgene DNA



For more information please visit www.PreAnalytix.com.

The PAXgene® Blood DNA Tube (IVD) is CE marked and FDA 510(k) cleared for *in vitro* diagnostic use.

Further information

Clinical and technical information is available on request.

Cell and biomarker preservation

BD™ P100 for stabilising proteins

BD™ P100 (Plasma Protein Preservation tube)

The BD™ P100 tube is a plasma protein preservation tube that contains K₂EDTA anticoagulant and a broad spectrum protease inhibitor cocktail optimised for human blood. The BD™ P100 tube also features a mechanical separator which provides high quality plasma suitable for many downstream protein analysis platforms including mass spectrometry and immunoassays.

The blend of broad spectrum protease inhibitors in the BD™ P100 tube has been specifically developed and optimised for human plasma to ensure the broadest range of plasma proteins are stabilised.

The separator provides a solid barrier between plasma and cellular material, ensuring a significant reduction in cellular contamination to further increase the stability of the plasma proteins.

Centrifugation

For best sample quality, the centrifugation of the BD P100™ tube should be performed in a swing-out centrifuge as soon as possible after the blood sample has been collected. Use of a fixed 45° angle rotor is possible.

Optimum centrifugation conditions for 8.5 mL tube:
2500 g for 20 minutes

If 2500 g cannot be achieved:
1600 g for 30 minutes or
1100 g for 30 minutes

Optimum centrifugation conditions for 2.0 mL tube:
1000-3000 g for 10 minutes

BD™ P100 tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
366422	2.0	13 x 75	K ₂ EDTA / Protease Inhibitor	None	PET	Paper	BD Hemogard™	
366448	8.5	16 x 100	K ₂ EDTA / Protease Inhibitor	Mechanical Separator*	PET	Paper	BD Hemogard™	

Tubes are supplied in boxes of 20 (366422) and 24 (366448)

Available to buy online at www.bdbiosciences.com - search P100

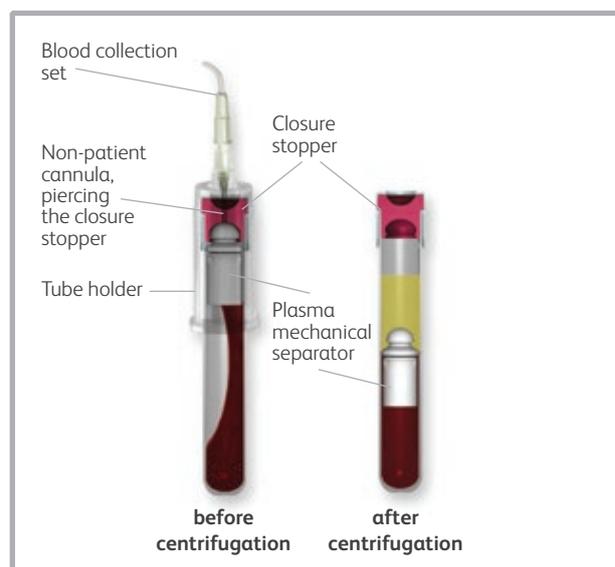


The BD™ P100 plasma protein tube is for research use only. Not for use in diagnostic procedures.

Further information

Clinical and technical information is available on request.

Mechanical plasma separator (366448 only)



* Mechanical Separator: PET, TPE and LDPE

Cell and biomarker preservation

BD™ P800

BD™ P800 (Plasma GLP-1, GIP, Glucagon & OXM Preservation Tube)

The BD™ P800 tube contains a proprietary cocktail of protease, esterase and dipeptidyl peptidase IV (DPP-IV) inhibitors that immediately solubilises during blood collection. The BD™ P800 tube provides preservation of the Incretin peptides released during feeding - Glucagon Like Peptide-1 (GLP-1), Gastric Inhibitory Peptide (GIP), Glucagon and OXM¹. The Incretin peptides are associated with metabolic diseases, such as Type II Diabetes and obesity.

Centrifugation conditions

2.0 mL tubes: 1100-1300 g for 10 minutes
8.5 mL tubes: 1100-1300 g for 20 minutes

Further information

Clinical and technical information is available on request.

The BD™ P800 tube is for research use only. Not for use in diagnostic procedures.

BD™ P800 tubes

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Separator	Material	Label	Cap closure	Cap colour
366420	2.0	13 x 75	K ₂ EDTA / Protease, Esterase and DPP-IV Inhibitor	None	PET	Paper	BD Hemogard™	
366421	8.5	16 x 100	K ₂ EDTA / Protease, Esterase and DPP-IV Inhibitor	None	PET	Paper	BD Hemogard™	

All tubes are supplied in cases of 100

Available to buy online at www.bdbiosciences.com - search P800



Stability

The stability of the peptides in BD™ P800 tubes in comparison to BD EDTA tubes for routine measurements is set out in the following table:

Peptides	T ½ EDTA (h)	T ½ P800 (h)
GLP-1 (G36A)	4-24*	> 96
GLP-1 (G37)	4-18	> 96
GIP (1-42)	5-20	> 96
OXM (1-37)	< 24	> 72
Glucagon	5-20	> 45

*Stable up to 12 hours +/- 3 hours when EDTA tube is on ice
Half-life, hours (at room temperature, unless specified).

Blood culture systems (BD Diagnostics - Diagnostic Systems)

BD BACTEC™ Plastic Bottles

The latest addition to the BD BACTEC™ range. New Plastic Blood Culture Bottles increase lab convenience while maintaining high quality standards.

- Provides the convenience of plastic without compromising clinical performance

- Plastic and glass bottles can be used in the same instrument
- Ready to use after a software update

Contact your BD Sales Representative today for more details.

BD BACTEC™ Media

Cat. no.	Specification	Unit of sales
442023	BD BACTEC™ Bottle Plastic Plus Aerobic Medium	50 vials
442022	BD BACTEC™ Bottle Plastic Plus Aerobic Medium	50 vials
442021	BD BACTEC™ Bottle Plastic Lytic Anaerobic Medium	50 vials
442020	BD BACTEC™ Bottle Plastic PEDS Plus Medium	50 vials

BD BACTEC™ Media

BD Diagnostics, a leader in blood collection and blood culture for more than 40 years, offers clinicians and microbiology laboratories a unique unmatched range of solutions providing:

- Safe specimen collection and transport
- Compatible, high-performing diagnostic systems
- Tools for active and real-time reporting
- High-quality trainings and support



Please contact your local BD office for more details or find more information on <http://www.bd.com/europe/ds/>

BD BACTEC™ Media

Cat. no.	Specification	Unit of sales
442260	BD BACTEC™ - Standard/10 Aerobic/F Medium	50 vials
442192	BD BACTEC™ PLUS - Aerobic/F Medium	50 vials
442191	BD BACTEC™ - Standard Anaerobic/F Medium	50 vials
442193	BD BACTEC™ PLUS - Anaerobic/F Medium	50 vials
442265	BD BACTEC™ - Lytic/10 Anaerobic/F Medium	50 vials
442194	BD BACTEC™ - BD Peds Plus™ Medium	50 vials
442003	BD BACTEC™ - Myco/F Lytic Medium	25 vials
442026	BD BACTEC™ - Mycosis IC/F Medium Culture Vials	25 vials
442206	BD BACTEC™ - Mycosis IC/F Medium Culture Vials	50 vials
257283	BD BACTEC™ PLUS Aerobic / Anaerobic Twinset	25 sets

Blood culture systems (BD Diagnostics - Diagnostic Systems)

BD BACTEC™ Bottles compatible with BD Vacutainer® Blood collection systems

As the worldwide leader in safety-engineered medical devices, BD has designed its BD BACTEC™ blood culture bottles to be fully compatible with the widely available BD Vacutainer® safety blood collection systems – **thus reducing the risk of contaminations and accidental needle-stick injuries during blood collection and sub-culturing.**

For more information on the BD Vacutainer® Push Button and Safety-Lok™ blood collection sets, BD Vacutainer® holders and blood transfer device, please go to pages 41-44 in this catalogue.



Specimen collection and transport system (BD Diagnostics - Diagnostic Systems)

BD™ ESwab™

BD™ ESwab™ Collection and Transport System is intended for the collection and transport of clinical specimens containing aerobes, anaerobes and fastidious bacteria from the collection site to the testing laboratory. In the laboratory, ESwab specimens are processed using standard clinical laboratory operating procedures for bacterial culture.



BD™ ESwab™

Cat. no.	Specification	Description	Unit of sales
220245	BD™ ESwab™ Regular Collection Kit	White polypropylene screw-cap tube filled with 1 mL of Liquid Amies Medium and one regular size flocked applicator swab.	50
220246	BD™ ESwab™ Minitip Collection Kit	Green polypropylene screw-cap tube filled with 1 mL of Liquid Amies Medium and one minitip flocked applicator swab.	50
220532	BD™ ESwab™ Flexible Minitip Collection Kit	Blue polypropylene screw-cap tube filled with 1 mL of Liquid Amies Medium and one flexible minitip flocked applicator swab.	50

Safety blood collection needles

Further information

BD recommends for all needles without an integrated holder that a BD Vacutainer® One Use holder is used.

Clinical and technical information is available on request.



BD Vacutainer® Eclipse™ Signal™ blood collection needles

Cat. no.	Size	Needle length	Colour code	Box/case
368837	21G (0.8mm)	25mm		50/500
368838	22G (0.7mm)	25mm		50/500

BD Vacutainer® Eclipse™ Signal™ blood collection needle

BD Vacutainer® Eclipse™ Signal™ offers a combination of proven robust safety technology with the additional benefit of in-vein confirmation. This results in ease of use and confidence during venous blood collection, increasing both healthcare worker and patient safety.



BD Vacutainer® Eclipse™ Signal™ blood collection needles with integrated holder

Cat. no.	Size	Needle length	Colour code	Box/case
368835	21G (0.8mm)	25mm		50/400
368836	22G (0.7mm)	25mm		50/400

Safety blood collection needles

BD Vacutainer® Eclipse™ blood collection needle

The BD Vacutainer® Eclipse™ safety needle for venous blood sampling has a fully integrated safety shield, which once activated protects against needle stick injuries. This safety shield is an integral part of the needle and its orientation aligns with the needle bevel. The safety mechanism is designed for single-handed activation. The fully integrated safety shield engages over the needle with an audible click, irreversibly locking with a triple closure mechanism.

Further information

BD recommends for all needles without an integrated holder that a BD Vacutainer® One Use holder is used.

Clinical and technical information is available on request.



BD Vacutainer® Eclipse™ blood collection needles

Cat. no.	Size	Needle length	Colour code	Box/case
368609	21G (0.8mm)	32mm		48/480
368610	22G (0.7mm)	32mm		48/480

BD Vacutainer® Eclipse™ blood collection needle with pre-attached holder

With this safety needle the holder is already pre-attached, so it is not necessary to manually assemble the needle and holder. This ready-for-use blood sample needle and holder is individually packaged in a sterile blister.



BD Vacutainer® Eclipse™ blood collection needles with pre-attached holder

Cat. no.	Size	Needle length	Colour code	Box
368650	21G (0.8mm)	32mm		100
368651	22G (0.7mm)	32mm		100

BD Vacutainer® blood collection needles

BD Vacutainer® needles can be used for multiple tube samples. BD Vacutainer® needles are coated with silicone, a low friction lubricant, ensuring smooth vein entry.

BD Vacutainer® needles are available in 20, 21 or 22 gauge needle sizes.

Further information

BD recommends for all needles without an integrated holder that a BD Vacutainer® One Use holder is used.

Clinical and technical information is available on request.



BD Vacutainer® multi-sample needles

Cat. no.	Size	Needle length	Colour code	Box/case
360215	20G (0.9mm)	38mm		100/1000
360214	20G (0.9mm)	25mm		100/1000
360213	21G (0.8mm)	38mm		100/1000
360212	21G (0.8mm)	25mm		100/1000
360211	22G (0.7mm)	38mm		100/1000
360210	22G (0.7mm)	25mm		100/1000

Safety blood collection sets

NEW BD Vacutainer® UltraTouch™ Push Button blood collection set

Further to the features of the BD Vacutainer® Push Button Blood Collection, the BD Vacutainer® UltraTouch collection set employs patented PentaPoint™ Comfort 5-bevel needle technology. Studies have shown that this design helps reduce the chance of a painful injection by creating a flatter, thinner surface to help penetrate the skin with significantly greater ease.¹ This new safety device has been shown to reduce penetration forces by up to 32 percent when compared to another leading blood collection set.²

In addition, its exclusive BD RightGauge™, Ultra-thin wall technology allows a better blood flow due to the needle's larger inner diameter. Therefore, clinicians can select a smaller gauge needle without sacrificing sample quality. This technology can also improve tube fill time by up to 50% when using the same gauge (23G standard needle vs. 23G UltraTouch™).³

UltraTouch™ Push Button brings healthcare workers greater confidence and ability in knowing they can use the needle gauge that is most appropriate for their patients with improved efficiency.

Further information

BD recommends for all needles without an integrated holder that a BD Vacutainer® One Use holder is used.

Clinical and technical information is available on request.



NEW



	Thin Wall	BD RightGauge™	
21G	0,022	0,027	0,032
23G	0,015	0,021	0,025
25G	0,012	0,016	0,020

All dimensions shown are nominal values and in inches.

BD Vacutainer® UltraTouch™ Push Button blood collection sets

Cat. no.	Size	Needle length	Length of tubing	With Luer adapter	Colour code	Box/case
367393	21G (0.8mm)	19mm	178mm	Yes		50/200
367365	21G (0.8mm)	19mm	305mm	Yes		50/200
367392	23G (0.6mm)	19mm	178mm	Yes		50/200
367364	23G (0.6mm)	19mm	305mm	Yes		50/200
367391	25G (0.5mm)	19mm	178mm	Yes		50/200
367363	25G (0.5mm)	19mm	305mm	Yes		50/200

1. Hirsch L.J., et al. Journal of Diabetes Science and Technology. 2012, 6(2):328-35.
 2. BD White Paper VS9248: BD Vacutainer® Push Button Blood Collection Set Penetration Force, 2016.
 3. BD White Paper VS9249: BD Vacutainer® Push Button Blood Collection Set Tube Fill Time, 2016.

Safety blood collection sets

BD Vacutainer® Push Button blood collection set

The BD Vacutainer® Push Button blood collection set with in-vein activation offers split-second protection against needle stick.

- Indication of successful venepuncture:
When the vein has been successfully penetrated, blood flows immediately into the inspection chamber.
- Versatile:
For taking blood samples and for short-term infusions of up to two hours.
- Single-handed activation possible:
The activation of the safety mechanism with a single hand allows greater attention to be paid to the patient and the venepuncture site.



- Protection against needle injuries:
On pressing the button, the needle is withdrawn straight from the vein and disappears permanently inside the housing of the blood collection set. This provides an extremely high level of protection against needle injuries.

Further information

Clinical and technical information is available on request.

BD Vacutainer® Push Button blood collection sets without luer adapter

Cat. no.	Size	Needle length	Length of tubing	With Luer adapter	Colour code	Box/case
367326	21G (0.8mm)	19mm	305mm	No		50/200
367324	23G (0.6mm)	19mm	305mm	No		50/200
367323	25G (0.5mm)	19mm	305mm	No		50/200

BD Vacutainer® Push Button blood collection set with pre-attached holder

With this safety blood collection set the holder is already pre-attached, so it is not necessary to manually assemble the needle and holder. This ready-for-use blood collection set is individually packaged in a sterile blister.

This sterile closed system is ideally suited for the taking of samples using the BD BACTEC™ blood culture bottles.

Further Information

Technical information is available on request.



BD Vacutainer® Push Button blood collection set with pre-attached holder

Cat. no.	Size	Needle length	Length of tubing	Colour code	Box/case
367355	21G (0.8mm)	19mm	178mm		20/100
368657	21G (0.8mm)	19mm	305mm		20/100
367354	23G (0.6mm)	19mm	178mm		20/100
368658	23G (0.6mm)	19mm	305mm		20/100

Safety blood collection sets

BD Vacutainer® Safety-Lok™ blood collection set

BD Vacutainer® Safety-Lok™ blood collection sets for venous blood collection have a fully integrated safety shield, which once activated protects against needle stick injuries.

- Indication of successful venepuncture:
When the vein has been successfully penetrated, blood can be seen in the device.
- Versatile:
For taking blood samples and for short-term infusions of up to two hours.
- Single-handed activation possible:
The activation of the safety mechanism with a single hand allows greater attention to be paid to the patient and the venepuncture site.
- Protection against needle injuries:
Following successful venepuncture, the integrated safety shield is pushed over the needle, covering it completely, indicated by an audible click.



Further information

BD recommends for all needles without an integrated holder that a BD Vacutainer® One Use holder is used.

Clinical and technical information is available on request.

BD Vacutainer® Safety-Lok™ blood collection sets

Cat. no.	Size	Needle length	Length of tubing	With Luer adapter	Colour code	Box/case
367282	21G (0.8mm)	19mm	178mm	Yes		50/200
367286	21G (0.8mm)	19mm	305mm	Yes		50/200
367246	21G (0.8mm)	19mm	305mm	No		50/200
367284	23G (0.6mm)	19mm	178mm	Yes		50/200
367288	23G (0.6mm)	19mm	305mm	Yes		50/200
367247	23G (0.6mm)	19mm	305mm	No		50/200
367295	25G (0.5mm)	19mm	178mm	Yes		50/200
368383	25G (0.5mm)	19mm	305mm	No		50/200

Safety blood collection sets

BD Vacutainer® Safety-Lok™ blood collection set with pre-attached holder

With this safety blood collection set the holder is already pre-attached, so it is not necessary to manually assemble the needle and holder. This ready-for-use blood collection set is individually packaged in a sterile blister.

The sterile closed system is ideally suited for the taking of samples using the BD BACTEC™ blood culture bottles.

Further information

Technical information is available on request.



BD Vacutainer® Safety-Lok™ blood collection sets with pre-attached holder

Cat. no.	Size	Needle length	Length of tubing	Colour code	Box/case
368654	21G (0.8mm)	19mm	178mm		25/200
368652	21G (0.8mm)	19mm	305mm		25/200
368655	23G (0.6mm)	19mm	178mm		25/200
368653	23G (0.6mm)	19mm	305mm		25/200

Accessories

Adapter and holder

BD Vacutainer® One Use holder, BD luer adapters and adapters with pre-attached holders

- 1 The BD Vacutainer® Blood Transfer Device is a pre-assembled and easy-to-use device designed with safety in mind. It is used for needleless specimen transfer from a syringe to an evacuated tube or blood culture bottle and has a red colour-coded connection to provide easy differentiation from other holder based products.
- 2 The BD Vacutainer® Luer-Lok™ Access Device is a pre-assembled multi-sample BD Luer-Lok™. It is compatible with female luer connections. It has a blue colour-coded connection to provide easy differentiation from other holder based products.
- 3 The BD Vacutainer® One Use holder is compatible with all BD Vacutainer® tubes and needles. The One Use holder is also compatible with the BD BACTEC™ blood culture bottle.



- 4 The BD Vacutainer® Luer adapter is a sterile device to be used with a One Use holder. It is compatible with female luer connections. It has a blue colour-coded cap to provide differentiation from other needles.

BD Vacutainer® Luer adapter

Cat. no.	Description	Colour code	Case
367300	BD Vacutainer® Luer adapter		100/1000

BD Luer adapters with pre-attached holders

These single use products are ready-to-use, sterile, individually blister packaged holders, with the Luer adapter ready fitted.

Cat. no.	Description	Colour code	Case
364810	Blood Transfer Device ("female Luer")		200
364902	Luer-Lok™ Access Device ("male Luer")		200

BD Vacutainer® One Use holder

Cat. no.	Description	Box/case
364815	BD Vacutainer® One Use plastic holders for tubes with 13mm and 16mm diameter and for BD BACTEC™ blood culture bottles, transparent white	250/1000

Other BD Vacutainer® holders

Cat. no.	Description	Box/case	Unit of sales
368872	BD Pronto™ Quick Release holder for tubes with 13mm and 16mm diameter and for BD Bactec™ blood culture bottles 	various	100 (5x20)
364879	BD Vacutainer® Multiple use plastic holder for tubes with 13mm and 16mm diameter and for BD Bactec™ blood culture bottles 		1000 (4x250)

Accessories

BD Vacutainer® Stretch Tourniquet

BD offers the BD Vacutainer® Stretch Tourniquet which is latex-free. Use of a single-use tourniquet minimises the risk of infection to healthcare workers and patients. The BD Vacutainer® Stretch Tourniquet is packaged in an easy-to-use dispenser which is also convenient for storage purposes.



Tourniquet

Cat. no.	Description	Box/case
367198	Single use tourniquet, latex-free, 25 tourniquets in one packaging unit, perforated for separation without other equipment	25/500
367205	Single use tourniquet, latex-free, 100 individual tourniquets (roll) in one packaging unit	100/500

DIFF-SAFE®

BD Vacutainer® - Preanalytical Systems offers the DIFF-SAFE® blood dispenser for preparing blood slides from a blood collection tube.



Blood dispenser

Cat. no.	Description	Case
366005	DIFF-SAFE®	100/1000

* DIFF-SAFE® is a registered trademark of Alpha Scientific Corporation.

Capillary blood sampling

Safety lancets

Finger tip sampling

The ergonomic design of the BD Microtainer® Contact-Activated safety single-use lancet enables it to be held securely and the sampling point precisely located. The lancet has been clinically demonstrated to minimise patient discomfort and maximise blood flow.^{1,2}

Its intuitive handling requires minimum training. The lancet is activated by being pressed onto the sampling location, minimising the influence of the user on puncture depth. The sharp point then retracts automatically into the housing.

This lancet is available in three sizes: for a single drop of blood, a medium or large flow of blood.



Further information

Clinical and technical information is available on request.

BD Microtainer® Contact-Activated Lancets

Cat. no.	Piercing width and depth	Blood volume	Colour code	Box/case
366592	30G x 1.5mm	One drop		2000 (10 x 200)
366593	21G x 1.8mm	Medium blood flow		2000 (10 x 200)
366594	1.5mm x 2.0mm	Large blood flow		2000 (10 x 200)

1. BD White Paper VS7499: A Comparison of BD Microtainer® Contact-Activated Lancet (Low Flow, purple) with BD Microtainer® Genie™, LifeScan OneTouch® SureSoft™ Gentle, and SurgiLance™ One-Step PLUS Safety Lancets for Comfort, Ease of Use and Blood Volume, 2006

2. BD White Paper VS7607: A Comparative Evaluation of the BD Microtainer® Contact-Activated Lancet (High Flow, Blue) with Other Market-leading Lancets for Blood Flow and Ease of Use during Finger Puncture Procedures, 2008

Capillary blood sampling

Safety lancets

Heelstick sampling

The BD Microtainer® QuikHeel™ safety single-use incision lancet is for taking capillary blood samples from the heels of premature and new-born babies, and infants. When the button is pressed, an extra thin steel blade provides a fine, clean, surgical cut and ensures a good flow of blood. The penetration depth is pre-determined to protect against bone infections and cannot be altered. The permanently shielded blade excludes the possibility of injury, or reuse.

The ergonomic design enables it to be held securely and the piercing point precisely located. The incision lancets are sterile and individually packed in blister packaging.



Further information

Technical information is available on request.

BD Microtainer® QuikHeel™ incision lancets

Cat. no.	Description	Piercing depth	Piercing width	Colour code	Box/case
368102	Incision lancet for premature babies	0.85mm	1.75mm		50/200
368103	Incision lancet for newborn babies and infants	1.00mm	2.50mm		50/200



Capillary blood sampling

BD Microtainer® MAP tubes

Process optimisation for capillary blood samples

BD Microtainer® MAP tubes are for collection, transport and processing of capillary blood from infants, children, geriatrics and emergency patients, whenever only the smallest amounts of blood are required.

The BD Microtainer®MAP tube for automated processing enables efficient workflow, both on the ward and in the laboratory.

- A capillary blood tube with standard blood collection tube dimensions (13 x 75mm) and penetrable closure.
- Compatible with haematology analysers without the need for a tube adapter.
- Three clearly visible fill markings ensure the correct sample volume (250-500µl).
- A standard label can be attached directly to the sample, minimising the risk of misidentification due to missing or incomplete labelling.



- Easy to open with twist locking mechanism that ensures no leakage.
- Colour marking for identification of the type of sample and the correct positioning of the patient label.

Further information

Technical information is available on request.

BD Microtainer® MAP tube

Cat. no.	Description	Closure	Cap colour	Box/case
363706	K ₂ EDTA tube for haematology with full size blood collection tube, dimensions 13 x 75mm	BD Microgard™		50/200

Capillary blood sampling

BD Microtainer® tubes

BD Microtainer®

BD Microtainer® tubes are for collection, transport and processing of capillary blood from infants, children, geriatrics and emergency patients, whenever only the smallest amounts of blood are required.

In order to ensure tube identification, the tubes are marked with the colour code that corresponds to the venous blood collection tubes. There are fill marks on the tubes that ensure the correct blood to additive ratio.

BD Microgard™ closure

The special design of the BD Microgard™ safety closure substantially reduces blood splashing after the tube has been opened.

A larger diameter facilitates handling of the tube.

In combination with a tube extender, the BD Microtainer® tubes with BD Microgard™ closure fit into 13 x 75mm racks.



Tube mixing

BD Microtainer® EDTA and glucose tubes should be gently inverted 180° and back 5 times.

BD Microtainer® plasma tubes should be gently inverted 180° and back 8-10 times.

BD Microtainer® SST™ tubes should be gently inverted 180° and back 8-10 times.

Further information

Technical information is available on request.

BD Microtainer® tubes with Microgard™ closure

Cat. no.	Description	Fill volume	Closure	Cap colour	Box/case
365975	K ₂ EDTA tube for haematology	250-500 µl	BD Microgard™		50/200
365966	Plasma tube with lithium heparin	200-400 µl	BD Microgard™		50/200
365986	Plasma tube with separating gel and lithium heparin	400-600 µl	BD Microgard™		50/200
365988	Plasma tube with separating gel, lithium heparin and UV protection (amber tint for light sensitive tests e.g. bilirubin)	400-600 µl	BD Microgard™		50/200
365993	Glucose tube with sodium fluoride and Na ₂ EDTA	400-600 µl	BD Microgard™		50/200
365968	Serum tube with separating gel	400-600 µl	BD Microgard™		50/200
365979	Serum tube with separating gel and UV protection (amber tint for light sensitive tests e.g. bilirubin)	400-600 µl	BD Microgard™		50/200
365964	Serum tube with clot activator	250-500 µl	BD Microgard™		50/200
368933	BD Microtainer® tube extender for attachment to all BD Microtainer® tubes with BD Microgard™ closure (10mm diameter)	n/a	n/a		50/200

BD Critical Care Collection Syringes

Blood gas syringes

BD Critical Care collection syringes can be used to collect blood from a patient's artery or vein. All syringes contain spray-dried calcium-balanced Lithium Heparin that enables the specimen to be analysed for Arterial Blood Gases (ABGs) and a host of critical care analytes.

BD A-Line™ blood gas syringes

BD A-Line™ syringes are used for blood collection by manual aspiration and are supplied without needles. They are designed to be used for arterial or venous blood collection from an arterial or IV line, and are available in 1mL and 3mL slip tip and 3mL BD Luer-Lok™ syringes.

BD A-Line™ blood gas syringes

Cat. no.	Syringe volume (mL)	Recommended fill volume (mL)	Units of heparin* (IU) (per syringe/per mL of blood**)	Gauge	Needle length	Connection	Tip cap
364356	1.0	0.6	30/50	-	-	Slip tip	Conventional
364378	3.0	1.6	80/50	-	-	BD Luer-Lok™	Hemogard style
364376	3.0	1.6	80/50	-	-	Slip tip	Conventional

Syringes supplied in cases of 100

Further information

Clinical and technical information is available on request.



Arterial blood sampling

Blood gas syringes

BD Preset™ safety blood gas syringe

BD Critical Care Collection syringes are available with the BD Eclipse™ safety-engineered needle, offering enhanced safety for the healthcare worker. The safety shield is integrated and is not an accessory to the needle. The needle bevel and safety shield are in alignment, ensuring no extra manipulation. The single-handed technique ensures no change in the collection technique and the double-locking mechanism is both visually and audibly confirmed for the healthcare worker.



Further information

Clinical and technical information is available on request.

BD Preset™ safety blood gas syringes

Cat. no.	Syringe volume (mL)	Recommended fill volume (mL)	Units of heparin* (IU) (per syringe/per mL of blood**)	Gauge	Needle length	Connection	Tip cap
364390	3.0	1.6	80/50	22G (0.7mm) BD Eclipse™	1" (25mm)	BD Luer-Lok™	Hemogard style
364391	3.0	1.6	80/50	23G (0.6mm) BD Eclipse™	1" (25mm)	BD Luer-Lok™	Hemogard style
364393	3.0	1.6	80/50	25G (0.5mm) BD Eclipse™	1" (25mm)	BD Luer-Lok™	Hemogard style

Syringes supplied in cases of 100

BD Preset™ blood gas syringe

The BD Preset™ syringe plunger can be preset to the recommended volume. As arterial blood fills the syringe, the residual air is expelled through the self-venting membrane.

BD Preset™ blood gas syringes

Cat. no.	Syringe volume (mL)	Recommended fill volume (mL)	Units of heparin* (IU) (per syringe/per mL of blood**)	Gauge	Needle length	Connection	Tip cap
364416	1.0	0.6	30/50	-	-	Slip tip	Conventional
364316	3.0	1.6	80/50	-	-	BD Luer-Lok™	Hemogard style
364413	1.0	0.6	30/50	23G (0.6mm)	1" (25mm)	Slip tip	Conventional
364415	1.0	0.6	30/50	25G (0.5mm)	5/8" (16mm)	Slip tip	Conventional
364314	3.0	1.0	80/50	22G (0.8mm)	1" (25mm)	BD Luer-Lok™	Conventional
364327	3.0	1.0	80/50	23G (0.5mm)	1" (25mm)	BD Luer-Lok™	Conventional

Syringes supplied in cases of 100

* Spray dried, calcium-balanced lithium heparin

** At recommended fill volume

Urine collection products

BD Vacutainer® Urine Collection System

BD Vacutainer® Urine Collection System is a closed system offering a range of solutions for collection, transport and preservation of urine samples to meet the needs of each patient according to their age, health and mobility.

BD offers a wide range of tube volumes for microbiology and urinalysis determinations, with or without preservatives. For microbiology determinations, BD offers a range of tube types with boric acid based preservatives, all clinically validated to provide 48 hour specimen stability at room temperature.^{1,2,3}

BD collection devices include specimen cups, 24 hour 3L containers and transfer straws for all patient collection methods.

Once sampled from the various patient collection sites, the BD evacuated urine tubes can be safely transported to the laboratory for analysis.



BD Vacutainer® tubes for urinalysis

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Material	Label	Cap closure	Cap colour	Box/case
368500	4.0	13 x 75	Without additive	PET	Paper	BD Hemogard™		100/1000
368501	6.0	13 x 100	Without additive	PET	Paper	BD Hemogard™		100/1000
365000*	9.5	16 x 100	Without additive	PET	Paper	BD Hemogard™		100/1000
364938	10.0	16 x 100	Without additive	PET	Paper	Conventional		100/1000
364915	11.0	16 x 100	Without additive	PET	Paper	BD Hemogard™		100/1000
365017	8.0	16 x 100	Stabiliser** mercury free	PET	Paper	BD Hemogard™		100/1000

* With conical bottom

** With stabiliser (chlorhexadine, ethyl paraben and sodium propionate)

1. Kouri T, Vuotari L, Pohjajaara S, Laippala P. Preservation of Urine for Flow Cytometric and Visual Microscopic Testing. Clin. Chem., Jun 2002; 48: 900-905

2. BD White Paper VS7097: Evaluation of BD Vacutainer® Urine Culture & Sensitivity PLUS Tube vs. Refrigerated BD Vacutainer® Non-Additive PLUS Tube for Microbiological Testing - Seeded Urine, 2003

3. BD White Paper VS7099: Evaluation of BD Vacutainer® Urine Culture & Sensitivity PLUS Tube vs. BD Vacutainer® Urine Culture & Sensitivity Glass Tube for Microbiological Testing - Patient Urine, 2003

Urine collection products

BD Vacutainer® Urine tubes for microbiology

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Material	Label	Cap closure	Cap colour	Box/case
364958	4.0	13 x 75	Stabiliser**	PET	Paper	BD Hemogard™		100/1000
364955	10.0	16 x 100	Stabiliser**	PET	Paper	BD Hemogard™		100/1000

BD Vacutainer® kits for microbiology

Cat. no.	Draw volume (mL)	Size (mm)	Additive	Material	Label	Cap closure	Cap colour	Box/case
364959*	4.0	13 x 75	Stabiliser**	PET	Paper	BD Hemogard™		50/200
364944*	10.0	16 x 100	Stabiliser**	PET	Paper	BD Hemogard™		50/200

BD Vacutainer® Urine collection containers and transfer units

Cat. no.	Description	Pack/case
364941	Polypropylene urine cup with screw closure and integrated transfer device, capacity 120mL, sterile	200
364982	Coloured polypropylene 24 hour collection container for the protection of light sensitive analytes, with screw closure and integrated urine transfer device, capacity 3 litres, with scale for volume checking, non-sterile	40
364940	Specimen transfer straw, non-sterile	100/1000

Further information

Clinical and technical information is available on request.

* Includes urine transfer straw

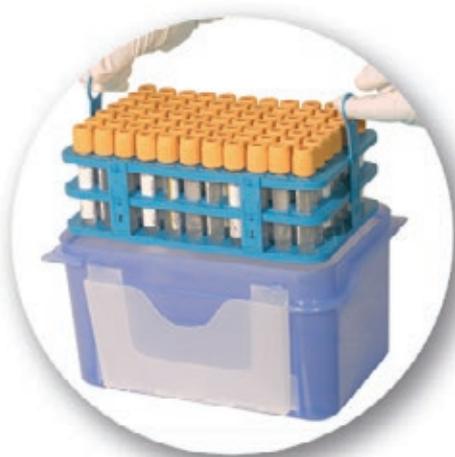
** Stabiliser for microbiological investigations consisting of boric acid, sodium formate and sodium borate, up to 48 hours stabilisation of bacteria growth at room temperature.^{1,2,3}

Transport

NEW MoveBag & MoveBox system for interlaboratory transportation

The biological specimen transportation system ensures your laboratory complies with international regulations:

- ISO 15189
- International Carriage of Dangerous Goods by Road (ADR) 2011 including packaging instructions P650 for UN3373 products
- UNI EN 829/98 Pressure resistance test & Drop Test



Tube Racks and Absorbents

Cat No.	Description	Unit of sales
368705	Tube rack for 13mm tubes, fits 77 tubes	24 racks
367218	Tube rack for 16mm tubes, fits 77 tubes	24 racks
368711	Absorbent - size: 200 x 120 mm	100 pieces

MoveBox

Cat No.	Description	Unit of sales
368704	Box - Blue transparent	12 boxes
368702	MoveBox + tube rack for 13 mm tubes+ 2 absorbants	12 boxes
368703	MoveBox + tube rack for 16 mm tubes+ 2 absorbants	12 boxes

Transport

MoveBag

Cat No.	Description	Dimensions (external)	Unit of sales
366911	Isothermic MoveBag, for 2 Movebox, navy blue	305 x 210 x 270 mm	2 bags
368701	Isothermic MoveBag, for 4 Movebox, navy blue	390 x 280 x 270 mm	2 bags

MoveBox and MoveBag Kit

Cat No.	Description	Unit of sales
368700	MoveBag + 4 MoveBox with tube rack for 13mm tubes and 2 absorbants	2 kits



Example of how the MoveBag for Phlebotomists can be organized

All shown items are seperately available

MoveBag for Phlebotomists

Cat No.	Description	Dimensions (external)	Unit of sales
361581	Isothermic MoveBag, red, adjustable compartments	450 x 280 x 280 mm	2 bags

Temperature Packs

Cat No.	Description	Weight	Unit of sales
368707	Eutectic system to stabilize temperature at 22°	0.2 kg	12 units
368708	Eutectic system to stabilize temperature at 22°	1.1 kg	6 units
368709	Eutectic system to stabilize temperature at 4°	0.2 kg	12 units
368710	Eutectic system to stabilize temperature at 4°	1.1 kg	6 units

BD™ Sharps Containers

BD Sharps Containers

- A range of Sharps Disposal containers designed for “point of use” disposal to ensure maximum safety¹
- There are on average 1 million² needle stick injuries in Europe every year. Approximately 30%³ of these are still associated with the disposal process.
- The BD Sharps Disposal System provides an environment and an approach that is focused on “Safety” to help reduce the risks of blood exposure and needle stick injuries associated with the disposal process⁴



Containers

Cat No.	Description	Product Dimensions (L x W x H / mm)	Usable Capacity (Litre)	Unit of sales
302434	0.45 L Sharps Container	105 x 50 x 170	0.36	100
367202	0.87L Sharps Container	89 x 74 x 168	0.7	50
305624	1.5 L Sharps Container	165 x 160 x 205	1.2	40
305625	3.0 L Sharps Container	182 x 181 x 260	2.4	25
305626	5.0 L Sharps Container	304 x 222 x 208	4.0	20
305627	7.0 L Sharps Container	304 x 222 x 255	5.6	16
300479	22.7 L Sharps Container	323 x 227 x 445	18.2	12

All BD Sharps Container have compatible brackets for placement on flat surfaces, secured to walls or for placement on medication carts.
For more information, please contact your local Sales Representative.

1. «Selecting, Evaluating and Using Sharps Disposal Containers” CDC NIOSH Publication NO. 97-111.

2. «European Healthcare Workers at Risk» 11th May 2004.

3. «Epinet Sharps Object Injury Report (48 Hospitals) 2003.

4. «European Healthcare Workers at Risk» 11th May 2004.

Product quality statement

Product Compliance

BD Vacutainer[®] Blood Collection Tubes and ancillary equipment are *In-Vitro* Diagnostic Medical Devices, non Annex II. These comply with the requirements described in the European *In Vitro* Diagnostic Medical Device Directive 98/79/EC.

BD Vacutainer[®] **Eclipse**[™] **Signal**[™] Blood Collection Needles, **BD Vacutainer**[®] Push Button Blood Collection Sets, **BD Safety-Lok**[™] Blood Collection Sets, **BD Microtainer**[®] **Contact-Activated Lancets** and **Critical Care Collection Syringes** with needles are class IIa Medical Devices and as such, comply with the requirements of the European Medical Device Directive, 93/42/EEC.

All product unit labels (and most packaging levels) bear the CE mark, demonstrating conformity to the above Directives.

The UK manufacturing plant, which supplies most European product, is certificated to ISO 13485 and ISO 14001. As a supplier to the US market, the plant is also subject to FDA inspection and therefore holds an FDA establishment registration certificate. Copies of all these certificates can be provided upon request.

Other BD manufacturing plants carry similar certification, which can also be provided upon request.

All products are designed and manufactured in accordance with the relevant international and/or European standards.

The product shelf life is based on data from stability testing and varies according to specific products. All expiry dates are clearly printed on product unit labels.

Clinical Data

Prior to launching a new product, BD conducts extensive clinical testing and data can be provided upon request.

Whenever changing any manufacturer's blood collection tube type, size, handling, processing or storage condition for a particular laboratory assay, the laboratory personnel should review the tube manufacturer's data to establish/verify the reference range for a specific instrument/reagent system. Based on such information, the laboratory can then decide if a change is appropriate.

Product sterilisation

All products, where applicable, are sterilised using either Gamma Irradiation, Ethylene Oxide (EtO) or Moist Heat methods. Microbiological environmental assessment for bio-burden levels is conducted regularly.

The sterilisation of **BD Vacutainer**[®] products is controlled by European Standards:

- EN ISO 11135** Sterilization of health care products -- Ethylene oxide -- Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices
- EN ISO 11137** Sterilization of health care products -- Radiation -- Part 1: Requirements for development, validation and routine control of a sterilization process for medical devices
- EN ISO 17665** Sterilization of health care products -- Moist heat -- Part 1: Requirements for the development, validation and routine control of a sterilization process for medical devices
- EN 556** Requirement for terminally sterilised devices to be labelled "STERILE"

Additional information

   The CE mark, signifying compliance with the European IVD MD Directive, 98/79/EC or the MD Directive 93/42/EEC.	
 Catalogue or re-order number	 Lot number or batch number
 Use by, expires	 Use once or do not reuse
 Sterilised by moist heat	 Sterile fluid path. Sterilised by irradiation
 Sterilised by irradiation	 Sterilised by Ethylene Oxide gas
 Keep away from sunlight (may show temperature range)	 Protect from any light source
 Fragile	 Storage temperature range
 This way up	 Recycle
 Date of manufacture	 Serial number
 "Caution" - consult instructions for use for important cautionary information	 Keep dry
 Manufacturer	 <i>In vitro</i> diagnostic medical device
 Consult instructions for use	 Authorised representative in the EU community
 Non-Pyrogenic	 Do not use if packaging is damaged

K2E	EDTA - dipotassium salt
K3E	EDTA - tripotassium salt
N2E	EDTA - disodium salt
9NC	Trisodium citrate 9:1
4NC	Trisodium citrate 4:1
FX	Fluoride / Oxalate
FE	Fluoride / EDTA
FH	Fluoride / Heparin
LH	Lithium Heparin
NH	Sodium Heparin
Z	None (no additive)

The abbreviations used in this catalogue have the following meanings:

PU = Packaging unit

G = Gauge

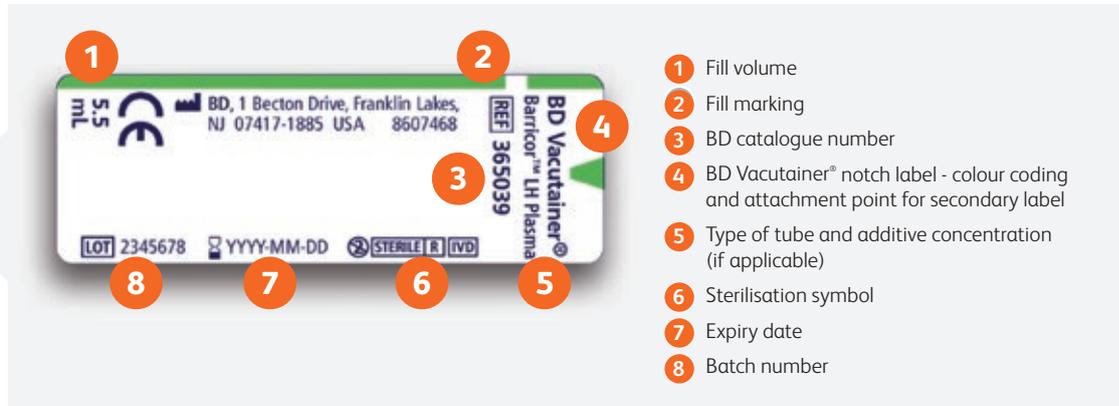
RT = Room temperature

RCF = Relative centrifugal force

g = g-number

Labelling and packaging information

Tube Labelling

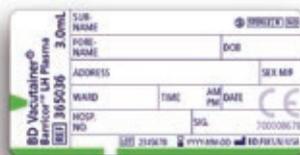


- 1 Fill volume
- 2 Fill marking
- 3 BD catalogue number
- 4 BD Vacutainer® notch label - colour coding and attachment point for secondary label
- 5 Type of tube and additive concentration (if applicable)
- 6 Sterilisation symbol
- 7 Expiry date
- 8 Batch number



Paper label

Patient data can be written directly onto the white surface of the standard label.



Block label

Paper label with form for patient data.



See Thru

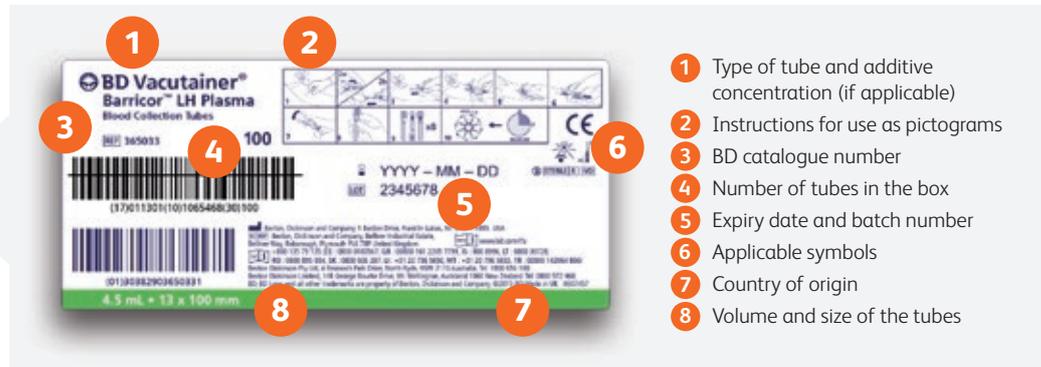
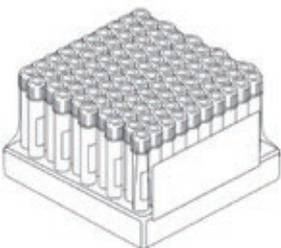
The product specifications are printed directly onto the tube and enable better visual inspection of the tubes.



Transparent label

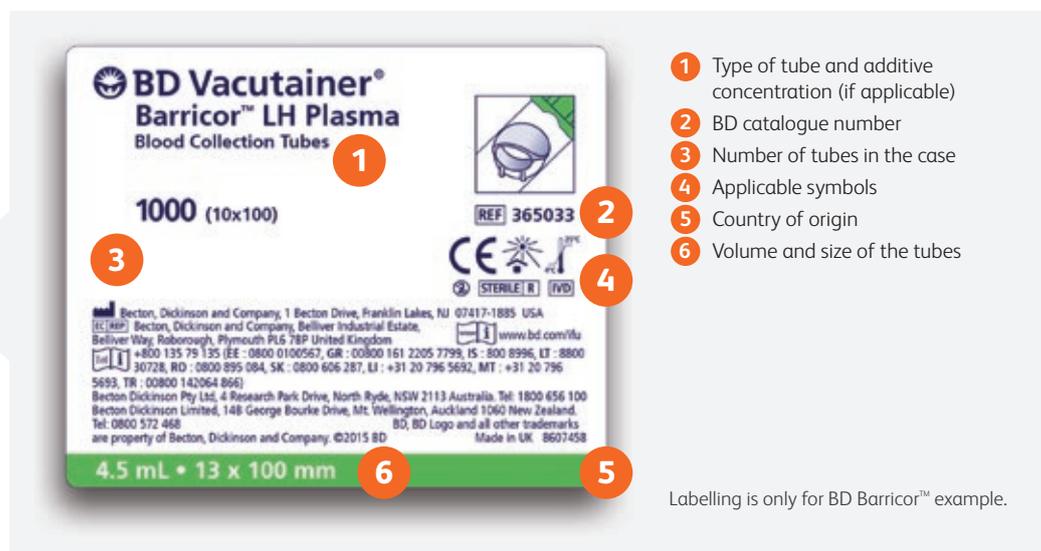
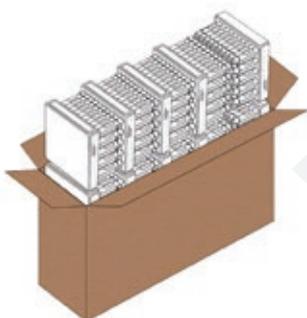
Same format as the paper label, but has the advantage that it is transparent and thus allows a better visual inspection of the tube.

Box



- 1 Type of tube and additive concentration (if applicable)
- 2 Instructions for use as pictograms
- 3 BD catalogue number
- 4 Number of tubes in the box
- 5 Expiry date and batch number
- 6 Applicable symbols
- 7 Country of origin
- 8 Volume and size of the tubes

Case



- 1 Type of tube and additive concentration (if applicable)
- 2 BD catalogue number
- 3 Number of tubes in the case
- 4 Applicable symbols
- 5 Country of origin
- 6 Volume and size of the tubes

Labelling is only for BD Barricor™ example.

Product code index

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257283	33	365049	19	367374	20	368700	53
300479	54	365050	19	367376	20	368701	53
302434	54	365052	19	367378	20	368702	52
305624	54	365053	19	367391	38	368703	52
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305626	54	365056	19	367393	38	368705	52
305627	54	365057	19	367525	21	368707	53
360210	37	365081	19	367526	17	368708	53
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364308	11	366593	44	368201	22	368933	47
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364378	48	366676	23	368381	25	368970	15
364390	49	366882	15	368383	40	369032	13
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364415	49	367205	43	368496	17	442022	33
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364810	42	367246	40	368498	15	442026	33
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364879	42	367282	40	368500	50	442192	33
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Technical changes, changes to the product range
and printing errors are subject to change without notice.

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