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REQUEST FOR EXEMPTION FROM 21 CFR 201.66

July 6, 2001

1506 '01

Indispensable to human health

Docket # 98N0377
Food and Drug Administration
5630 Fisher's Lane
Room 1061
Rockville, MD. 20852

Regarding: Catalog #442000/442001 Becton Dickinson BACTEC™ Blood Culture Procedural Tray, A procedural tray for recovery and culture of organisms (bacteria and yeast) from blood

The product for which we request exemption is a convenience kit, containing blood culture bottles, SAFETY-LOK™ blood collection set, tourniquet, gloves, bandages and gauze. The kits include two OTC drug products, PERSIST™ swab stick (Povidone Iodine 0.75% skin prep) and Alcohol prep pad (70% isopropyl alcohol), provided in unit packages within the kit. The intended use of the product is to facilitate the collection of blood samples by the phlebotomist at the point of collection. Devices and drugs are packaged as a single product, and sold to hospitals, clinical laboratories, doctor's offices and other clinics, where sampling is required prior to assessing the specimen for diagnostic purposes.

21 CFR 201 requires that OTC drugs have specific labeling, on the outside container or wrapper of the retail package, or on the immediate container if there is no outside package. BD receives product that is ordinarily sold to consumers or to hospitals in multi-unit packages, with the appropriate 21 CFR part 201.66 labeling on the outside of the package. However, BD receives the product in bulk format (8000 individual packages per case of the alcohol unit packages, and similar bulk packaging for the iodophore). BD places two of the Alcohol and one of the Povidone Iodine 0.75%packages in each convenience kit. The unit packages of drug are not labeled as required by 21 CFR part 20. However, the kit label (see Appendix A) contains the brand name and quantity of each component, including the drugs, Alcohol prep pad and Povidone Iodine swab. In addition, the labeling of the convenience kit is consistent with 21 CFR 809.10 for *in vitro* diagnostic devices.

BD wishes to obtain a waiver from the format and content requirements in 201.66 (c) and (d) for the outside package of this convenience kit.

Additionally, BD wishes to continue to use the unit package labeling provided on the current unit package, which is not compliant with any of the format requirements in 201.66 (d), and does not comply with all the specific content requirements as stated in 201.66 (c)(1) through (c) (9). We therefore request an exemption from these requirements. (See Appendix B for a copy of the drug unit package labels)

BD believes that this request for exemption is reasonable, as the requirement for consumer labeling on a product intended for professional use only is inapplicable and impractical.

I. The requirement is inapplicable, because the BD product is not intended to be sold over-the-counter to consumers, and the regulation is directed to consumer products. While it is possible that products such as Alcohol prep pads and Povidone Iodine swabs could be used by non-professionals, the procedural kit itself is only intended for professional use, and the likelihood of lay use of this combination product is extremely low.

   1. The regulation does not appear to be directed at combination products such as convenience kits sold exclusively to health care organizations for use in health-care settings by health care professionals.

98N-0337

APP17

The Agency, in its preamble stated that "a standardized labeling format would significantly improve readability by familiarizing *consumers* with the types of information in OTC drug product and the location of the information...would help *consumers* locate and read important health and safety information and allow quick and effective product comparisons". (64 FR 13254, March 17, 1999). Further, the regulation cites two studies (Study A, conducted on 1202 respondents in 8 geographically distributed shopping malls the US, and Study B, conducted on 904 respondents) in support of the regulation. Both studies were conducted on consumers at malls.

The BACTEC Blood Culture Procedural Tray convenience kit is not sold to consumers, and it does not appear in publicly accessible facilities, such as malls or pharmacies. In general, buying decisions for this kit are made by hospital purchasing organizations or group purchasing organizations, which compare product on the basis of specific hospital requirements, including kit composition, cost and quality. The product is used by health care professionals to collect specimens for further testing in the laboratory. The current labeling is "likely to be understood by the ordinary individual under customary conditions of purchase and use"(21 USC 352(c)), because the ordinary individual employing the kit is a licensed technologist, phlebotomist or an RN. The ordinary individual charged with purchasing the kit is a purchasing agent, who will never see the label.

2. The notice for the regulation (62 FR 9024) failed to specify OTC drugs contained in convenience kits, or to make allowance for this type of product. While comment on this regulation and its scope was extensive, no mention is made of combination products such as convenience kits containing OTC drugs in either the preamble or the regulation. This combination product, and others of its type, does not appear to have been considered when this regulation was published as a proposed rule (62 FR 9024, February 1997), nor was it considered when the final regulation was published. Since these products are packaged, distributed and sold in a completely different manner than consumer OTC drugs, they should have been addressed in the proposed regulation if the regulation was intended to cover them. If FDA intended the rule to apply to convenience kits containing drugs, the notice is deficient, in that it does not contain an essential element of the issues involved. BD therefore concludes that FDA did not intend this regulation to apply to convenience kits containing OTC drug products as one component of the kit.

II. The requirement is impractical.

1. With respect to requiring the kit label to contain the "Drug Facts" label specified in 21 CFR 201.66, this is impractical, as it would require additional extensive labeling specific to the drug component of the kit on the kit packaging. The drug is simply one component of the collection of products supplied in the kit as previously noted. Currently, the practice is to list all the components and their quantity on the kit label. For components requiring additional instructions for use, these are provided in the package insert that accompanies the product as required under 21 CFR 809.10(b). Use of the Povidone Iodine swab to prepare a site for sample collection, and use of an Alcohol pad post phlebotomy is a procedure commonly known to the health care professionals employing the kit, per 21 CFR 116.

2. With respect to requiring the unit package of the drug to contain the "Drug Facts" label specified in 21 CFR 201.66, this is also impractical, as the product is not provided with such a label, and therefore the product would have to be re-packaged or overlabeled to provide such labeling. This operation would add considerably to the expense of the product without improving information to the prospective user. The user would not see such labeling until they had opened the kit package, at which point he/she is committed to employ the product. Warnings specific to the product such as "For External Use Only" already exist on the unit package, as do other components of labeling required by 21 CFR part 201 subpart A . As BD has pointed out (above), the purchaser of the product never sees the label, so it cannot be a variable in the decision to purchase.

3. Additionally, the purchaser of this product is provided a Material Safety Data Sheet (MSDS) by BD that describes all hazards associated with the product. By OSHA regulation (HAZCOM), the

user site would be required to train all personnel on the hazards of the product and maintain a MSDS Manual for use by personnel in the case of an emergency. The information contained in the MSDS is more extensive than that required by 21 CFR 201.66, which would make this information more valuable to the user prior to use or in the case of an emergency.

BD, therefore, requests exemption from all the format and content requirements in 21 CFR 201.66 for both the convenience kit label and the unit package label.

We have included the current label and labeling for the kit and for the kit components in Appendices A, B, C and D. If you have any questions regarding this submission, please do not hesitate to contact me at 201 847 4122. (email anna_longwell@bd.com).

Sincerely,

Anna M Longwell

Anna M. Longwell, Esq.
Vice President Regulatory Affairs
BD Medical Systems
BD
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Franklin Lakes, NJ 07417-1880

APPENDIX A

LABEL, BACTEC BLOOD CULTURE PROCEDURAL TRAY-UNIT PACKAGE BACTEC BLOOD CULTURE PROCEDURAL TRAY-SKU, 20 UNITS

PEEL PEEL

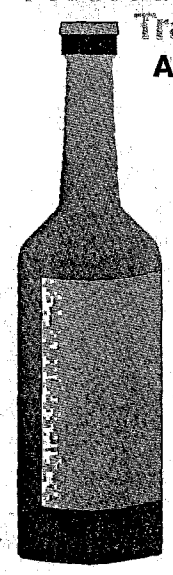
For In Vitro Diagnostic Use

Cat. No. 442000

BACTEC™

Blood Culture Procedural Tray 1

ADULT



- ***BACTEC*™** PLUS Aerobic/F Bottle
- ***BACTEC*** LYTIC/10 Anaerobic/F Bottle
- **PERSIST™** Iodine Prep
- **SAFETY-LOK™** Blood Collection Set
- Stretch Tourniquet (***Latex Free***)
- Alcohol Prep Pad (2)
- **VACUTAINER™** Brand Holder
- Gloves, Large (***Latex Free***)
- Elastic Bandage (***Latex Free***)
- Gauze Pads (2)
- Instruction Sheet
- Specimen Collection Bag

Lot #:

Expires:

Store at 2° - 25° C

This Product Contains Dry Natural Rubber.
Caution: This Product Contains Natural Rubber Latex Which May Cause An Allergic Reaction.

L-001784 (B)

PROCEDURAL TRAY 1 (ADULT)

BACTEC/F

BECTON DICKINSON

Becton Dickinson Microbiology Systems
7 Loveton Circle • Sparks, MD 21152

BACTEC, PERSIST, SAFETY-LOK and VACUTAINER are trademarks of Becton Dickinson and Company.

BACTEC™ Cat. No. **442000**

Blood Culture Procedural Tray 1 — 20 Kits

Culture Vials – **Aerobic/Anaerobic.** For the culture and recovery of microorganisms from blood.

Store: 2° – 25°C.

This Product Contains Dry Natural Rubber.

Caution: This Product Contains Natural Rubber Latex Which May Cause An Allergic Reaction.

in vitro Diagnostic

Contents:

- **20** ***BACTEC*™** PLUS Aerobic/F Bottles
- **20** ***BACTEC*** LYTIC/10 Anaerobic/F Bottles
- **20 PERSIST™** Iodine Preps
- **20 SAFETY-LOK™** Blood Collection Sets
- **20** Stretch Tourniquets (***Latex Free***)
- **40** Alcohol Prep Pads
- **20 VACUTAINER™** Brand Holders
- **20** Gloves, Large (***Latex Free***)
- **20** Elastic Bandages (***Latex Free***)
- **40** Gauze Pads (2)
- **20** Instruction Sheets
- **20** Specimen Collection Bags
- **1** ***BACTEC*** PLUS/F Package Insert
- **1** ***BACTEC*** LYTIC/10/F Package Insert
- **2** Quality Control Certificates

L-001787 (B)

Becton Dickinson Microbiology Systems, Becton Dickinson and Company, Sparks, Maryland 21152 U.S.A.
BACTEC, SAFETY-LOK, VACUTAINER and PERSIST are trademarks of Becton Dickinson and Company.
Made in U.S.A.

BECTON DICKINSON

BACTEC™ Cat. No. **442000**

Blood Culture Procedural Tray 1 — 20 Kits

***BACTEC*™ PLUS + Aerobic/F* Medium**

20 Vials – 25 mL each

Amount added per liter of processed water: 160 g Non-ionic Adsorbing Resin; 27.5 g Soybean-Casein Digest Broth; 10 g Cationic Exchange Resin; 2.5 g Yeast Extract; 0.84 g Sucrose; 0.6 g Dextrose; 0.5 g Sodium Polyanetholsulfonate; 0.01 g Pyridoxal HCl; 0.005 g Hemin; 0.0005 g Menadione.

See Package Insert (PP-088) for Directions.

*U.S. Patent No. 4,632,902

***BACTEC*™ LYTIC/10 Anaerobic/F Medium**

20 Vials – 40 mL each

Amount added per liter of processed water: 27.5 g Soybean-Casein Digest Broth; 2.0 g Yeast Extract; 0.5 g Animal Tissue Digest; 2.0 g Dextrose; 0.35 g Sodium Polyanetholsulfonate; 1.0 g Thiols; 1.0 g Sodium Pyruvate; 0.2 g Sodium Citrate; 0.005 g Hemin; 0.0005 g Menadione; 0.1 g Antifoam; 2.6 g Saponin.

See Package Insert (PP-108) for Directions.

BECTON DICKINSON

APPENDIX B

LABELS, DRUG PRODUCTS IN BACTEC BLOOD CULTURE PROCEDURAL TRAY

REF 386401

TEAR

Persist™

Povidone Iodine Prep

Topical Antimicrobial
0.75% available Iodine with alcohol
One Swab Stick

B-D

X3007D (12-97)

Manufactured for:
Becton Dickinson Infusion Therapy Systems Inc.
Sandy, UT 84070
Distributed in Canada by:
Becton Dickinson Canada Inc.
Mississauga, Ontario L5J 2M8

DIN 02213362 NDC 59407-6401-1

DIRECTIONS: Tear open with a twist. Prep intended catheter insertion site. Allow to dry.

Warning: Keep this and all drugs out of the reach of children. In case of accidental ingestion, seek professional assistance or contact a Poison Control Center immediately. Contains alcohol which is flammable until dry.
Store at room temperature.

Label – Front and Back Persist Povidone Iodine Prep

APLICARE®

ALCOHOL
PREP PAD

Contains: 70% Isopropyl Alcohol
Sterile unless opened or damaged.
FOR EXTERNAL USE ONLY
Prep Pad Size: 1-1/4 in. x 1-1/2 in.
Reorder No. P-1005

DIRECTIONS: Apply locally as needed.

WARNING: If taken internally, serious gastric disturbances will result.

CAUTION: In case of deep or puncture wounds or serious burns, consult physician. If redness, irritation, swelling or pain persists or increases or if infection occurs, discontinue use and consult physician.

Keep this and all drugs out of reach of children. In case of accidental ingestion seek professional assistance or contact a Poison Control Center immediately.

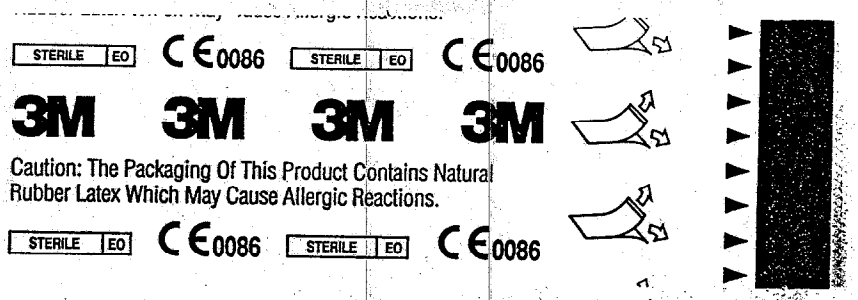
APLICARE, INC. BRANFORD, CT 06405 U.S.A.

Tear Here

Label – Front and back alcohol prep pad

APPENDIX C

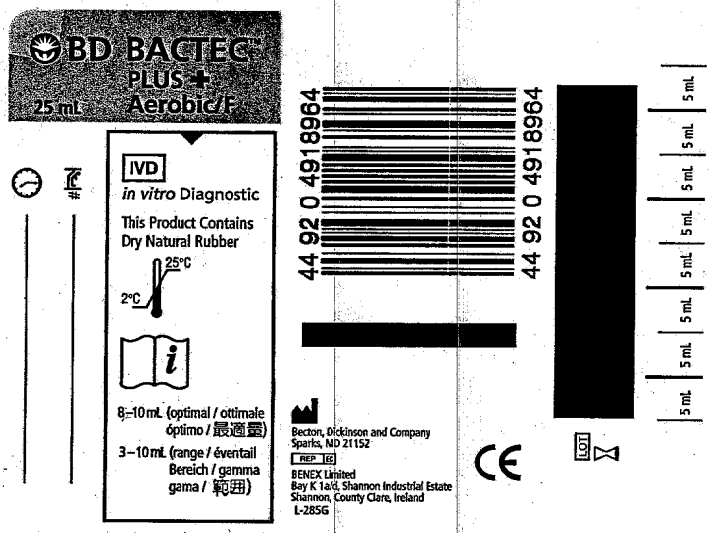
LABELS, DEVICE PRODUCTS IN BACTEC BLOOD CULTURE PROCEDURAL TRAY

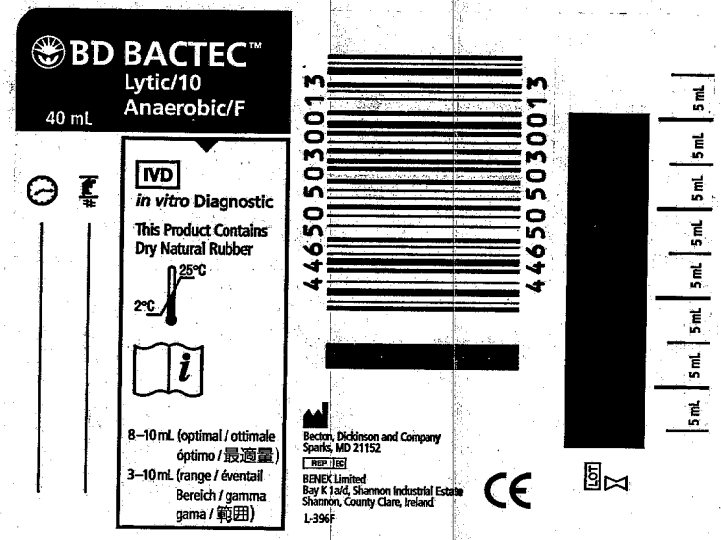


Label Bandage

Label – Blood collection set

BACTEC™/F Blood Culture Procedural Kits
Catalog 442000
26/F & Lytic 10/F





APPENDIX D

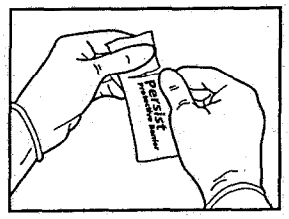
LABELING SUPPLIED WITH THE BACTEC BLOOD CULTURE PROCEDURAL TRAY

Procedural Chart for Use with *BACTEC*® Blood Culture Procedural Trays

WARNING:

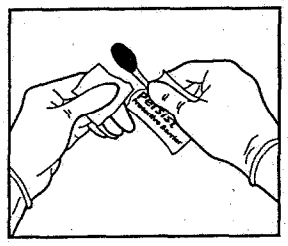
"Universal Precautions" should be followed when handling all items contaminated with blood or other bodily fluids.

Prior to use, 1) inspect all vials and discard any vials showing evidence of contamination, damage or deterioration;
2) inquire if patient has a history of adverse reaction to iodine (see Step 1 below).

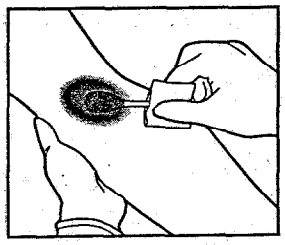


STEP 1 — Skin Preparation

- Open the PERSIST™ package by tearing completely through at the side notches and twisting.



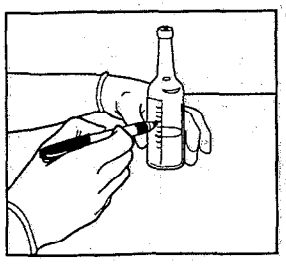
- Leave the package over the end of the swabstick to prevent gloves from becoming covered with solution.



- Apply PERSIST by beginning at the intended venipuncture site, working in a circular motion with friction, covering an area of 2-3 inches in diameter.
- Allow PERSIST solution to air dry.
- **DO NOT** touch or palpate the area after cleansing.

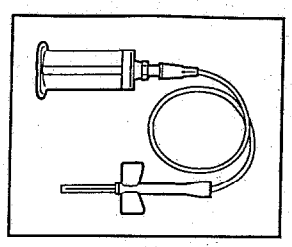
STEP 2 — Prepare BACTEC vials

- Remove flip-off caps from BACTEC culture vials.
- Wipe tops of vials with single alcohol swab and allow to dry.



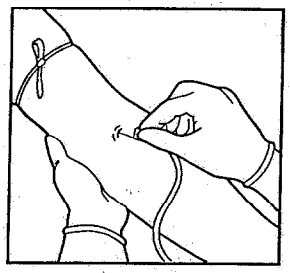
- Mark BACTEC culture vial labels at desired fill level.

L-001810 (A)



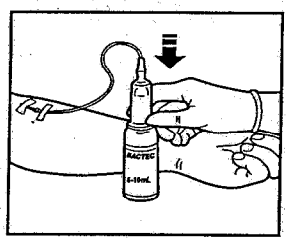
STEP 3 – Prepare VACUTAINER® SAFETY-LOK® Blood Collection Set

- Peel apart package and remove blood collection set.
- Thread the Luer end of tubing set into VACUTAINER holder.
- Remove sheath covering needle at wings.

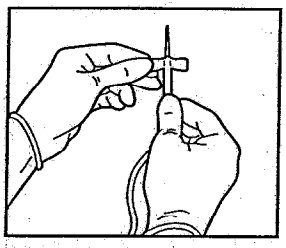


STEP 4 — Collect Blood Sample

- Perform venipuncture by holding wings as shown. **DO NOT** hold by grasping the yellow safety shield.
- Select aerobic bottle first. Hold the bottle upright.



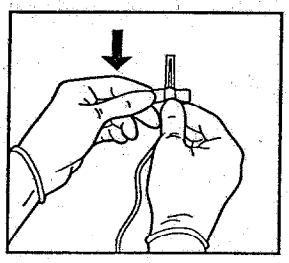
- Push and hold VACUTAINER holder over top of vial to puncture septum.
- Collect blood to desired fill level on vial label. Monitor to ensure proper blood flow and fill level.
- Remove holder from vial. Immediately push and hold holder onto second vial.
- Collect blood to desired fill level on second vial. Remove holder from vial. (Note: If more samples are required from patient, additional tubes may be drawn at this time using the VACUTAINER holder.)



STEP 5 — Remove needle from venipuncture site

- When final vial is filled, remove the tourniquet.

  Withdraw the needle from puncture site by grasping the wings and gently pulling. **DO NOT** withdraw by holding the yellow safety shield. Cover the puncture site with a sterile gauze pad and apply mild pressure.



- To activate the safety shield, grasp either wing with one hand and grip the yellow safety shield base with the other hand. Slide the wings back into the rear of the safety shield until a snap is felt to ensure that the needle is retracted completely and locked in place.

STEP 6 — Patient Skin Care

- After all specimens have been collected, remove iodine from around the collection site using sterile alcohol swab.
- Continue to care for collection site following guidelines recommended by your institution.

STEP 7 — Label vials

- Label all vials with appropriate patient demographic. **DO NOT** write on or place any labels over the BACTEC vial barcode, as this is used by the instrument to process the specimen. Put BACTEC bottles and draw slip into specimen biohazard bag for transport to the laboratory.

STEP 8 — Disposal

- Dispose of the VACUTAINER SAFETY-LOK Blood Collection set into the nearest sharps container according to state, local and institutional regulations. **DO NOT** disassemble the blood collection set.
- Dispose of all other used materials in appropriate waste container and wash hands.

BECTON DICKINSON

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Becton Dickinson Microbiology Systems, Sparks, Maryland 21152
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TECHNICAL SUPPORT:
For information or assistance, call toll-free 800-638-8663

BD BACTEC™

Plus Aerobic/F* and Plus Anaerobic/F* Culture Vials
Soybean-Casein Digest Broth

CE

PP-088F
2001/02

NAME

BACTEC™ culture vial types Plus Aerobic/F (enriched Soybean-Casein Digest broth with CO_2) and BACTEC™ Plus Anaerobic/F (prereduced enriched soybean-casein digest broth with CO_2) are for aerobic and anaerobic cultures respectively. Principal use is with the BACTEC brand fluorescent series instruments.

INTENDED USE

A qualitative procedure for the culture and recovery of microorganisms (bacteria and yeast) from blood. BACTEC Plus Aerobic/F and Plus Anaerobic/F media have been formulated to allow the addition of up to 10 mL of blood. The addition of these larger sample volumes results in overall higher detection rates and earlier times to detection.

SUMMARY AND EXPLANATION OF THE TEST

The sample to be tested is inoculated into one or more vials which are inserted into the BACTEC fluorescent series instrument for incubation and periodic reading. Each vial contains a chemical sensor which can detect increases in CO_2 produced by the growth of microorganisms. The sensor is monitored by the instrument every ten minutes for an increase in its fluorescence, which is proportional to the amount of CO_2 present. A positive reading indicates the presumptive presence of viable microorganisms in the vial. Detection is limited to microorganisms that will grow in a particular type of medium.

Resins have been described for the treatment of blood specimens both prior to and after their inoculation into culture media. Resins have been incorporated into BACTEC culture media to enhance recovery of organisms without a need for special processing.[1,2,3]

PRINCIPLES OF THE PROCEDURE

If microorganisms are present in the test sample inoculated into the BACTEC vial, CO_2 will be produced when the organisms metabolize the substrates present in the vial. Increases in the fluorescence of the vial sensor caused by the higher amount of CO_2 are monitored by the BACTEC fluorescent series instrument. Analysis of the rate and amount of CO_2 increase enables the BACTEC fluorescent series instrument to determine if the vial is positive, i.e., that the test sample contains viable organisms.

REAGENTS

The BACTEC culture vials contain the following reactive ingredients prior to processing:

List of Ingredients	BACTEC Plus Aerobic/F	BACTEC Plus Anaerobic/F
Processed Water	25 mL	25 mL
Soybean-Casein Digest Broth	2.75% w/v	2.75% w/v
Yeast Extract	0.25% w/v	0.4% w/v
Animal Tissue Digest	———	0.05% w/v
Dextrose	0.06% w/v	0.25% w/v
Sucrose	0.084% w/v	———
Fructose	———	0.25% w/v
Arginine	———	0.25% w/v
Hemin	0.0005% w/v	0.0005% w/v
Menadione	0.00005% w/v	0.00005% w/v
Pyridoxal HCl (Vitamin B6)	0.001% w/v	———
Thiols	———	0.16% w/v
Sodium Citrate	———	0.02% w/v
Potassium Phosphate	———	0.24% w/v
Sodium Polyanetholesulfonate (SPS)	0.05% w/v	0.05% w/v
Nonionic Adsorbing Resin	16.0% w/v	16.0% w/v
Cationic Exchange Resin	1.0% w/v	1.0% w/v

All BACTEC media are dispensed with added CO_2. Anaerobic media are prereduced and dispensed with CO_2 and N_2. Composition may have been adjusted to meet specific performance requirements.

WARNING

The prepared culture vials are for *in vitro* diagnostic use.

This Product Contains Dry Natural Rubber.

Pathogenic microorganisms including Hepatitis B Virus and Human Immunodeficiency Virus may be present in specimens. "Universal Precautions"[4,5] should be followed in handling all items contaminated with blood or other body fluids.

Prior to use, each vial should be examined for evidence of contamination such as cloudiness, bulging or depressed septum, or leakage. DO NOT USE any vial showing evidence of contamination. A contaminated vial could contain positive pressure. If a contaminated vial is used for direct draw, gas or contaminated culture media could be refluxed into the patient's vein. Vial contamination may not be readily apparent. If a direct draw procedure is used, monitor the process closely to avoid refluxing materials into the patient.

Prior to use, the user should examine the vials for evidence of damage or deterioration. Vials displaying turbidity, contamination, or discoloration (darkening) should not be used. On rare occasions, the glass bottle neck may be cracked and the neck may break during removal of the flip-off cap or in handling. Also, on rare occasions a vial may not be sealed sufficiently. In both cases the contents of the vials may leak or spill, especially if the vial is inverted. If the vial has been inoculated, treat the leak or spill with caution, as pathogenic organisms/agents may be present. Before discarding, sterilize all inoculated vials by autoclaving.

Positive culture vials for subculturing or staining, etc.: before sampling it is necessary to release gas which often builds up due to microbial metabolism. Sampling should be performed in a biological safety cabinet if possible, and appropriate protective clothing, including gloves and masks, should be worn. See Procedure section for more information on subculturing.

To minimize the potential of leakage during inoculation of specimen into culture vials, use syringes with permanently attached needles or LUER-LOK™ brand tips.

STORAGE INSTRUCTIONS

The BACTEC vials are ready for use as received and require no reconstitution or dilution. Store in a cool, dry place (2° – 25°C), out of direct sunlight.

*U.S. Patent No. 4,632,902

SPECIMEN COLLECTION

The specimen must be collected using sterile techniques to reduce the chance of contamination. The recommended specimen volume is 8 – 10 mL. It is recommended that the specimen be inoculated into the **BACTEC** vials at bedside. Most commonly, a 10cc or 20cc syringe with a **LUER-LOK** brand tip is used to draw the sample. If appropriate, a **VACUTAINER™** Brand Needle Holder and a **VACUTAINER™** Brand Blood Collection Set, **VACUTAINER™ SAFETY-LOK™** Blood Collection Set or other tubing "butterfly" set may be used. If using a needle and tubing set (direct draw), carefully observe the direction of blood flow when starting sample collection. The vacuum in the vial will usually exceed 10 mL, so the user should monitor the volume collected by means of the 5 mL graduation marks on the vial label. When the desired 8 – 10 mL has been drawn, the flow should be stopped by crimping the tubing and removing the tubing set from the **BACTEC** vial. Sample volumes as low as 3 mL can be used, however recovery will not be as great as with larger volumes. Also, other considerations must be taken into account when sample volumes of less than 8 mL are used (see Limitations of the Procedure). **The inoculated BACTEC vial should be transported to the laboratory as quickly as possible.**

PROCEDURE

Remove the flip-off cap from the **BACTEC** vial top and inspect the vial for cracks, contamination, excessive cloudiness, and bulging or indented septums. **DO NOT USE** if any defect is noted. Before inoculating, swab the septum with alcohol (iodine is **NOT** recommended). Aseptically inject or draw directly 8 – 10 mL of specimen per vial. If sample volumes of 3 – 7 mL are used, recovery will not be as great as with larger volumes (see Limitations of the Procedure). **Inoculated aerobic and anaerobic vials should be placed in the *BACTEC* fluorescent series instrument as soon as possible** for incubation and monitoring. If placement of an inoculated vial into the instrument has been delayed and visible growth is apparent, it should not be tested in the **BACTEC** fluorescent series instrument, but rather it should be subcultured, Gram-stained and treated as a presumptively positive bottle.

Vials entered into the instrument will be automatically tested every ten minutes for the duration of the testing protocol period. Positive vials will be determined by the **BACTEC** fluorescent series instrument and identified as such (see **BACTEC** Fluorescent Series Instrument User's Manual, MA-0074). The sensor inside the bottle will not appear visibly different in positive and negative vials, however the **BACTEC** fluorescent series instrument can determine a difference in fluorescence.

If at the end of the testing period a negative vial appears visually positive (i.e., chocolatized blood, bulging septum, lysed and/or very darkened blood), it should be subcultured and Gram-stained and treated as a presumptive positive.

Positive vials should be subcultured and a Gram-stained slide prepared. In a great majority of cases, organisms will be seen and a preliminary report can be made to the physician. Subcultures to selective media and a preliminary direct antimicrobial susceptibility test may be prepared from fluid in the **BACTEC** vials.

Subculturing: Prior to subculturing, put the vial in an upright position, and place an alcohol wipe over the septum. To release pressure in the vial, insert a sterile needle with an appropriate filter or pledget through the alcohol wipe and septum. The needle should be removed after the pressure is released and before sampling the vial for subculture. The insertion and withdrawal of the needle should be done in a straight-line motion, avoiding any twisting motions.

For maximum yield of isolates, negative cultures may be checked by stain and/or subcultured at some point prior to discarding as negative.

QUALITY CONTROL

DO NOT USE culture vials past their expiration date.

DO NOT USE culture vials that exhibit any cracks or defects; discard the vial in the appropriate manner.

Quality Control Certificates are provided with each carton of media. Quality Control Certificates list test organisms, including **ATCC™** cultures specified in the NCCLS Standard, Quality Assurance for Commercially Prepared Culture Media. The range of time-to-detection in hours was ≤ 72 hours for each of the organisms listed on the Quality Control Certificate for this medium:

Aerobic Media Organisms

Organism

Neisseria meningitidis
ATCC 13090
Haemophilis influenzae
ATCC 19418
*Streptococcus pneumoniae**
ATCC 6305
Streptococcus pyogenes
ATCC 19615
*Pseudomonas aeruginosa**
ATCC 27853
Candida albicans
ATCC 18804
Staphylococcus aureus
ATCC 25923
Escherichia coli
ATCC 25922
Alcaligenes faecalis
ATCC 8750

Anaerobic Media Organisms

Organism

Clostridium histolycum
ATCC 19401
Clostridium perfringens
ATCC 13124
*Bacteroides fragilis**
ATCC 25285
Bacteroides vulgatus
ATCC 8482
*Streptococcus pneumoniae**
ATCC 6305
Escherichia coli
ATCC 25922
Staphylococcus aureus
ATCC 25923

**NCCLS Strain*

It is recommended that each shipment of media be tested for performance through the use of a positive and negative vial test. The positive vial should be inoculated with 1.0 mL of a 0.5 McFarland Standard of either *Escherichia coli* or *Staphylococcus aureus*. This vial and an uninoculated vial should be logged into the instrument and tested. The inoculated vial should be detected as positive by the instrument within 72 hours. The negative control vial should remain negative. This verifies that the media were not subject to adverse storage or shipping conditions prior to receipt in your laboratory. If either of these vials do not give the expected results, do not use the media until you have contacted Technical Services at 1-800-638-8663.

For information on Quality Control for the **BACTEC** brand fluorescent series instrument, refer to the **BACTEC** Fluorescent Series Instrument User's Manual (MA-0074).

RESULTS

A positive sample is determined by the **BACTEC** fluorescent series instrument and indicates the presumptive presence of viable microorganisms in the vial. See the **BACTEC** Fluorescent Series Instrument User's Manual (MA-0074).

EXPECTED VALUES AND SPECIFIC PERFORMANCE CHARACTERISTICS

Performance of resin containing media has been previously established with **BACTEC** radiometric and nonradiometric systems.[1,2,3] Seeded laboratory studies performed by Becton Dickinson have shown equivalent performance of the resin media **BACTEC** Plus Aerobic/F and Plus Anaerobic/F to nonradiometric **BACTEC™** Plus 26 and Plus 27.[6]

LIMITATIONS OF THE PROCEDURE

Contamination

Care must be taken to prevent contamination of the sample during collection and inoculation into the **BACTEC** vial. A contaminated sample will give a positive reading, but will not indicate a relevant clinical sample. Such a determination must be made by the user based on such factors as type of organism recovered, occurrence of the same organism in multiple cultures, patient history, etc.

Recovery of SPS Sensitive Organisms From Blood Samples

Because blood can neutralize the toxicity of SPS toward organisms sensitive to SPS, the presence of maximum volumes of blood (8 – 10 mL) can help to optimize recovery of these organisms. To enhance the growth of SPS sensitive organisms when less than 8 mL of blood is inoculated, additional whole human blood may be added.

Some fastidious organisms, such as certain *Haemophilus* species, require growth factors, such as NAD, or factor V, which are provided by the blood specimen. If the blood specimen volume is 3.0 mL or less, an appropriate supplement may be required for recovery of these organisms. **BACTEC FOS™** Fastidious Organism Supplement or whole human blood may be used as nutritional supplements.

Non-Viable Organisms

A Gram-stained smear from a culture medium may contain small numbers of non-viable organisms derived from media constituents, staining reagents, immersion oil, glass slides, and specimens used for inoculation. In addition, the patient specimen may contain organisms that will not grow in the culture medium or in media used for subculture. Such specimens should be subcultured to special media as appropriate.[7]

Antimicrobial Activity

Neutralization of the antimicrobial activity by resins varies depending upon dosage level and timing of specimen collection. The use of supplementary additives should be considered in appropriate situations; as an example, the addition of penicillinase when β-lactam therapy is being employed.

For information on antimicrobial agents neutralized by **BACTEC** resins, contact the BDB Technical Services department at the toll free number listed below.

Recovery of *Streptococcus pneumoniae*

In aerobic media, *S. pneumoniae* will typically be visually and instrument positive, but in some cases no organism will be seen on Gram stain or recovered on routine subculture. If an aerobic vial was also inoculated, the organism can usually be recovered by performing an aerobic subculture of the anaerobic vial, since this organism has been reported to grow well under anaerobic conditions.[8]

General Considerations

Optimum recovery of isolates will be achieved by adding maximum amounts of blood. Use of lower volumes may adversely affect recovery and/or detection times of organisms such as *Peptostreptococcus, Peptococcus, Bacteroides asaccharolyticus*. Blood may contain antimicrobials or other inhibitors which may slow or prevent the growth of microorganisms. False negative readings may result when certain organisms are present which do not produce enough CO_2 to be detected by the system or if significant growth has occured before placing the vial into the system. False positivity may occur when the white blood cell count is high.

Due to the nature of biological materials in media products and inherent organism variability, the user should be cognizant of potential variable results in the recovery of certain microorganisms.

REFERENCES

1. Wallis, C. *et al.*, Rapid isolation of bacteria from septicemic patients by use of an antimicrobial agent removal device. J. Clin. Microbiol. 1980, 11:462-464.
2. Applebaum, P. C. *et al.*, Enhanced detection of bacteremia with a new **BACTEC** resin blood culture medium. J. Clin. Microbiol. 1983, 17:48-51.
3. Jungkind, D.L. *et al.*, Evidence for a second mechanism of action of resin in **BACTEC** NR16A aerobic blood culture medium. Abstracts of the Annual Meeting of Amer. Soc. for Microbiol. 1989.
4. Recommendations for preventing transmission of Human Immunodeficiency Virus and Hepatitis B Virus to patients during exposure-prone invasive procedures. MMWR 1991, Vol. 40, No. RR-8.
5. Bloodborne Pathogens. Code of Federal Regulations, Title 29, Part 1910.1030, Federal Register 1991, 56:64175 – 64182.
6. Data available from Becton Dickinson Microbiology Systems.
7. Balows, A. *et al.*, Manual of Clinical Microbiology. 5th ed. Amer. Soc. Microbiol., Washington, D.C., 1991.
8. Howden, R.J., J. Clin. Path. 1976, 29:50-53.

BACTEC, VACUTAINER, SAFETY-LOK AND LUER-LOK are trademarks of Becton, Dickinson and Company
ATCC is a registered trademark of the American Type Culture Collection.

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BD BACTEC™

CE

LYTIC/10 Anaerobic/F Culture Vials

PP-108E
2001/01

NAME

BACTEC™ LYTIC/10 Anaerobic/F culture vials (prereduced enriched Soybean-Casein Digest broth with CO_2) are for anaerobic blood cultures. Principal use is with the **BACTEC** brand fluorescent series instruments.

INTENDED USE

A qualitative procedure for the culture and recovery of anaerobic microorganisms from blood.

SUMMARY AND EXPLANATION OF THE TEST

The sample to be tested is inoculated into one or more vials which are inserted into the **BACTEC** brand fluorescent series instrument for incubation and periodic reading. Each vial contains a chemical sensor which can detect increases in CO_2 produced by the growth of microorganisms. The sensor is monitored by the instrument every ten minutes for an increase in its fluorescence, which is proportional to the amount of CO_2 present. A positive reading indicates the presumptive presence of viable microorganisms in the vial. Detection is limited to microorganisms that will grow in a particular type of medium.

PRINCIPLES OF THE PROCEDURE

If microorganisms are present in the test sample inoculated into the **BACTEC** vial, CO_2 will be produced when the organisms metabolize the substrates present in the vial. Increases in the fluorescence of the vial sensor caused by the higher amount of CO_2 are monitored by the **BACTEC** brand fluorescent series instrument. Analysis of the rate and amount of CO_2 increase enables the **BACTEC** brand fluorescent series instrument to determine if the vial is positive; i.e., that the test sample contains viable organisms.

REAGENTS

The **BACTEC** LYTIC/10 Anaerobic/F culture vials contain the following active ingredients prior to processing:

List of Ingredients

Processed Water	40 mL
Soybean-Casein Digest Broth	2.75% w/v
Yeast Extract	0.2% w/v
Animal Tissue Digest	0.05% w/v
Dextrose	0.2% w/v
Hemin	0.0005% w/v
Menadione	0.00005% w/v
Sodium Citrate	0.02% w/v
Thiols	0.1% w/v
Sodium Pyruvate	0.1% w/v
Saponin	0.26% w/v
Antifoaming Agent	0.01% w/v
Sodium Polyanetholsulfonate (SPS)	0.035% w/v

All **BACTEC** media are dispensed with added CO_2. Anaerobic media are prereduced and dispensed with added CO_2 and N_2. Composition may have been adjusted to meet specific performance requirements.

WARNING

Precautions: in vitro diagnostic.

This Product Contains Dry Natural Rubber.

Pathogenic microorganisms including Hepatitis B Virus and Human Immunodeficiency Virus may be present in specimens. "Universal Precautions"[1,2] and institutional guidelines should be followed in handling all items contaminated with blood or other body fluids.

Prior to use, each vial should be examined for evidence of damage, contamination or deterioration. Vials displaying evidence of damage or contamination such as leakage, cloudiness, discoloration (darkening), bulging or depressed septum should not be used.

A contaminated vial could contain positive pressure. If a contaminated vial is used for direct draw, contaminated culture media could be refluxed into the patient's vein. Vial contamination may not be readily apparent. When using direct draw procedures, monitor the process closely to avoid refluxing materials into patient.

On rare occasions, the glass bottle neck may be cracked and the neck may break during removal of the flip-off cap or in handling. Also, on rare occasions, a vial may not be sealed sufficiently. In both cases the contents of the vial may leak or spill. If the vial has been inoculated, treat the leak or spill with caution, as pathogenic organisms/agents may be present. Before discarding, sterilize all inoculated vials by autoclaving.

Positive culture vials for subculturing or staining, etc.: Before sampling it is necessary to release gas which often builds up due to microbial metabolism. Sampling should be performed in a biological safety cabinet if possible, and appropriate protective clothing, including gloves and masks, should be worn. See Procedure section for more information on subculturing.

To minimize the potential of leakage during inoculation of specimen into culture vials, use syringes with permanently attached needles or **LUER-LOK™** brand tips.

STORAGE INSTRUCTIONS

The **BACTEC** vials are ready for use as received and require no reconstitution or dilution. Store at 2° – 25°C in a dry location, out of direct sunlight.

SPECIMEN COLLECTION

The specimen must be collected using sterile techniques to reduce the chance of contamination. The typical specimen volume is 8 – 10 mL. It is recommended that the specimen be inoculated into the **BACTEC** vials at bedside. Most commonly, a 10cc or 20cc syringe with a **LUER-LOK** brand tip is used to draw the sample. If appropriate, a **VACUTAINER™** brand Needle Holder and a **VACUTAINER™** brand Blood Collection Set, **VACUTAINER™ SAFETY-LOK™** Blood Collection Set or other tubing "butterfly" set may be used. If using a needle and tubing set (direct draw), carefully observe the direction of blood flow when starting sample collection. The vacuum in the vial will usually exceed 10 mL, so the user should monitor the volume collected by means of the 5 mL graduation marks on the vial label. When the desired 8 – 10 mL has been drawn, the flow should be stopped by crimping the tubing and removing the tubing set from the **BACTEC** vial. Sample volumes as low as 3 mL can be used, however, recovery will not be as great as with larger volumes. **The inoculated BACTEC vial should be transported as quickly as possible to the laboratory.**

PROCEDURE

CAUTION: LYTIC/10 Anaerobic/F Medium must be used with Software version 3.03 or higher. Remove the flip-off cap from **BACTEC** vial top and inspect the vial for cracks, contamination, excessive cloudiness, and bulging or indented stoppers. **DO NOT USE** if any defect is noted. Before inoculating, swab

the septum with alcohol (iodine is **NOT** recommended). Aseptically inject or draw directly 8 – 10 mL of specimen per vial. If sample volumes of 3 – 4 mL are used, recovery will not be as great as with larger volumes (see Limitations of the Procedure). **Inoculated anaerobic vials should be placed in the BACTEC brand fluorescent series instrument as soon as possible** for incubation and monitoring. If placement of an inoculated vial into the instrument has been delayed and visible growth is apparent, it should not be tested in the **BACTEC** brand fluorescent series instrument, but rather it should be subcultured, Gram-stained and treated as a presumptively positive bottle.

Vials entered into the instrument will be automatically tested every ten minutes for the duration of the testing protocol period. Positive vials will be determined by the **BACTEC** brand fluorescent series instrument and identified as such (see **BACTEC** Fluorescent Series Instrument User's Manual, MA-0074). The sensor inside the bottle will not appear visibly different in positive and negative vials, however the **BACTEC** fluorescent series instrument can determine a difference in fluorescence.

Blood will lyse immediately upon addition to the **BACTEC** LYTIC/10 Anaerobic/F Medium. The blood will appear chocolatized or very dark initially. If at the end of the testing period a **BACTEC** LYTIC/10 Anaerobic/F vial is observed to have a bulging septum, it should be subcultured, Gram-stained or treated as presumptive positive.

Positive vials should be subcultured and a Gram-stained slide prepared. In a great majority of cases, organisms will be seen and a preliminary report can be made to the physician. Subcultures to selective media and a preliminary direct antimicrobial susceptibility test may be prepared from fluid in the **BACTEC** brand vials.

Subculturing: Prior to subculturing, put the vial in an upright position, and place an alcohol wipe over the septum. To release pressure in the vial, insert a sterile needle with an appropriate filter or pledget through the alcohol wipe and septum. The needle should be removed after the pressure is released and before sampling the vial for subculture. The insertion and withdrawal of the needle should be done in a straight-line motion, avoiding any twisting motions.

For maximum yield of isolates, negative cultures may be checked by stain and/or subcultured at some point prior to discarding as negative.

QUALITY CONTROL

DO NOT USE culture vials past their expiration date.

DO NOT USE culture vials that exhibit any cracks or defects; discard the vial in the appropriate manner.

Quality Control Certificates are provided with each carton of media. Quality Control Certificates list test organisms, including **ATCC™** cultures specified in the NCCLS Standard, Quality Assurance for Commercially Prepared Culture Media.

The range of time-to-detection in hours was ≤ 72 hours for each of the organisms listed on the Quality Control Certificate for this medium:

Clostridium perfringens **ATCC** 13124
*Streptococcus pneumoniae** **ATCC** 6305
*Bacteroides fragilis** **ATCC** 25285
Escherichia coli **ATCC** 25922
Bacteroides vulgatus **ATCC** 8482
Staphylococcus aureus **ATCC** 25923

*NCCLS Strain

It is recommended that each shipment of media be tested for performance through the use of a positive and negative vial test. The positive vial should be inoculated with 1.0 mL of a 0.5 McFarland Standard of either Escherichia coli or Staphylococcus aureus. This vial and an uninoculated vial should be logged into the instrument and tested. The inoculated vial should be detected as positive by the instrument within 72 hours. The negative control vial should remain negative. This verifies that the media were not subject to adverse storage or shipping conditions prior to receipt in your laboratory. If either of these vials do not give the expected results, do not use the media until you have contacted Technical Services at 1-800-638-8656.

For information on Quality Control for the **BACTEC** brand fluorescent series instrument, refer to the **BACTEC** Fluorescent Series Instrument User's Manual (MA-0074).

EXPECTED RESULTS

Seeded culture studies were performed using inoculum levels targeted at 10 to 50 CFU per culture vial of a combination of ATCC and wild microbial strains. The following is a list of organisms which were detected as positive in **BACTEC** LYTIC/10 Anaerobic/F medium by the **BACTEC** 9000 Series Blood Culture System within a five (5) day period.

Bacteroides asaccharolyticus
Bacteroides fragilis
Bacteroides ovatus
Bacteroides thetaiotaomicron
Clostridium histolyticum
Clostridium novyi
Clostridium perfringens
Enterobacter cloacae
Enterococcus faecalis
Escherichia coli
Fusobacterium nucleatum
Klebsiella pneumoniae
Peptostreptococcus anaerobius
Peptostreptococcus asaccharolyticus
Peptostreptococcus magnus
Peptostreptococcus prevotil
Propionibacterium acnes
Staphylococcus aureus
Staphylococcus epidermidis
Streptococcus pneumoniae
Streptococcus spp. (grp. A)
Veillonella parvula

PERFORMANCE CHARACTERISTICS

In an external 2-site clinical study comparing the performance of the **BACTEC** LYTIC/10 Anaerobic/F blood culture medium to the **BACTEC** Standard Anaerobic/F blood culture medium a total of 2092 paired vials were evaluated. The false positive rate for **BACTEC** LYTIC/10 Anaerobic/F blood culture medium was 0.1%. The false negative rate was 0.4%.

A total of 207 organisms were recovered. Table 1 shows the isolates recovered by media type. Of these, 122 (58.9%) were judged to be clinically significant. Of the clinically significant isolates, 79 (64.8%) were recovered in both media, 36 (29.5%) were recovered in the **BACTEC** LYTIC/10 Anaerobic/F blood culture medium only and 7 (5.7%) were recovered in the **BACTEC** Standard Anaerobic/F blood culture medium only. The average time to detection for the **BACTEC** LYTIC/10 Anaerobic/F blood culture medium was 13 hours while the average time to detection for the **BACTEC** Standard Anaerobic/F blood culture medium was 18.4 hours.

TABLE 1: Clinical Study Isolate Recovery – Media Type

Organism	Recovered in LYTIC/10 Anaerobic/F Only	Recovered in Standard Anaerobic/F Only	Recovered in BOTH
Anaerobes	7	1	4
Gram Negatives	20	5	28
Gram Positives	8	1	47
Yeast	1	0	0

List of organisms recovered in BACTEC LYTIC/10 Anaerobic/F media:

Acinetobacter baumanii
Bacteroides caccae
Bacteroides fragilis
Candida glabrata
Clostridium hastiforme
Clostridium species
Enterobacter cloacae
Enterococcus faecalis
Escherichia coli
Fusobacterium species
Klebsiella pneumoniae
Peptostreptococcus micros
Prevotella species
Proteus mirabilis
Pseudomonas aeruginosa
Salmonella Group B
Serratia marcescens
Staphylococcus aureus
Staphylococcus coag. negative
Streptococcus alpha (not D or pneumoniae)
Streptococcus enterococcus
Streptococcus Group B
Streptococcus Group C
Streptococcus pneumoniae
Streptococcus species

LIMITATIONS OF THE PROCEDURE

Contamination

Care must be taken to prevent contamination of the sample during collection and inoculation into the BACTEC brand vial. A contaminated sample will give a positive reading, but will not indicate a relevant clinical result. Such a determination must be made by the user based on such factors as type of organisms recovered, occurrence of the same organism in multiple cultures, patient history, etc.

Recovery of SPS Sensitive Organisms from Blood Samples

Because blood can neutralize the toxicity of SPS toward organisms sensitive to SPS (such as P. anaerobius), the presence of optimum volumes of blood (5 – 10 mL) is a benefit in the recovery of these organisms. To enhance the growth of SPS sensitive organisms when less than optimum volumes of blood are inoculated, whole human blood may be added.

Some fastidious organisms, such as certain Haemophilus species, require growth factors, such as NAD, or factor V, which are provided by the blood specimen. If the blood specimen volume is 3.0 mL or less, an appropriate supplement may be required for recovery of these organisms. **BACTEC** brand **FOS™** Fastidious Organism Supplement or whole human blood may be used as nutritional supplements.

Non-viable Organisms

A Gram-stained smear from culture medium may contain small numbers of non-viable organisms derived from media constituents, staining reagents, immersion oil, glass slides, and specimens used for inoculation. In addition, the patient specimen may contain organisms that will not grow in the culture medium or in media used for subculture. Such specimens should be subcultured to special media as appropriate.[3]

General Considerations

Optimum recovery of isolates will be achieved by adding 8 – 10 mL of blood. Use of lower or higher volumes may adversely affect recovery and/or detection times. Blood may contain antimicrobials or other inhibitors which may slow or prevent the growth of microorganisms. False negative readings may result when certain organisms are present which do not produce enough CO_2 to be detected by the system or significant growth has occurred before placing the vial into the system. False positivity may occur when the white blood cell count is high.

REFERENCES

1. Recommendations for preventing transmission of Human Immunodeficiency Virus and Hepatitis B Virus to patients during exposure-prone invasive procedures. MMWR 1991, Vol. 40, No. RR-8.
2. Bloodborne pathogens. Code of Federal Regulations, Title 29, Part 1910.1030 Federal Register 1991, *56*:64175-64182.
3. Balows, A. et al., Manual of Clinical Microbiology. 5th ed. Amer. Soc. Microbiol., Washington, DC, 1991.

BACTEC, BD, VACUTAINER, SAFETY-LOK AND LUER-LOK are trademarks of Becton, Dickinson and Company
ATCC is a registered trademark of the American Type Culture Collection.

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Quality Control Certificate

This is to certify that representative samples of

BACTEC® PLUS™ AEROBIC/F MEDIUM

were tested in the Quality Control Laboratory by procedures conventionally utilized for this type of product, including methodology and control ATCC® cultures specified in the NCCLS standard, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, and met the following test parameters:

pH: 7.2 ± 0.2

Sterilization:
The product was exposed to a moist heat sterilization process (previously validated following an AAMI guideline+).

Vacuum draw:
≥ 8 mL at time of manufacture.

Biological performance:
Satisfactory growth:
Alcaligenes faecalis ATCC® 8750
Candida albicans ATCC® 18804
Escherichia coli ATCC® 25922
Haemophilus influenzae ATCC® 19418
Neisseria mengitidis ATCC® 13090
**Pseudomonas aeruginosa* ATCC® 27853
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305
S. pyogenes Group A ATCC® 19615

Antimicrobial Removal:
Satisfactory

The batch record has been reviewed and approved, which verifies that the lot was formulated and processed within the established specifications for this product.

*NCCLS Strain / souche / Stamm / ceppo / cepa

†National Committee for Clinical Laboratory Standards, Dec. 1990. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, NCCLS publication M22-A, Villanova, PA.

+Association for the Advancement of Medical Instrumentation, 1987. *Guideline for Industrial Moist Heat Sterilization of Medical Products*, AAMI standard ST25, Arlington, VA.

Certificat de contrôle de qualité

Ceci certifie que des présents échantillons de type

MILIEU BACTEC® PLUS™ AEROBIC/F

ont été testés dans le Laboratoire de Contrôle de Qualité par les méthodes conventionnellement utilisées pour ce type de produit incluant la méthodologie et les cultures de contrôle ATCC® spécifiées dans l'étaon NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, et ont satisfait aux paramètres suivants :

pH : 7,2 ± 0,2

Stérilisation :
Le produit a été exposé à un processus de stérilisation par chaleur humide (validé auparavant selon une directive de l'AAMI+).

Prélèvement sous vide :
≥ 8 mL au moment de la fabrication.

Rendement biologique :
Croissance satisfaisante :
Alcaligenes faecalis ATCC® 8750
Candida albicans ATCC® 18804
Escherichia coli ATCC® 25922
Haemophilus influenzae ATCC® 19418
Neisseria mengitidis ATCC® 13090
**Pseudomonas aeruginosa* ATCC® 27853
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305
S. pyogenes groupe A ATCC® 19615

Elimination des agents antimicrobiens :
Satisfaisante

L'enregistrement du lot a été revu et approuvé, certifiant que le lot a été conçu et traité selon les spécifications établies pour ce produit.

Qualitätskontroll-Zertifikat

Hiermit wird bescheinigt, daß repräsentative Proben von

BACTEC® PLUS™ AEROBIC/F MEDIUM

im Qualitätskontroll-Labor nach für diesen Medientyp gebräuchlichen Verfahren und mit den Methoden und ATCC® Kontrollkulturen des NCCLS-Standards *Quality Assurance for Commercially Prepared Microbiological Culture Media*† getestet wurden und die folgenden Testparameter erfüllten:

pH: 7,2 ± 0,2

Sterilisation:
Das Produkt wurde durch feuchtes Erhitzen sterilisiert (bereits früher nach Richtlinien der AAMI+ validiert).

Evakuiertes Luftvolumen:
≥ 8 mL zum Zeitpunkt der Herstellung.

Biologisches Verhalten:
Zufriedenstellendes Wachstum:
Alcaligenes faecalis ATCC® 8750
Candida albicans ATCC® 18804
Escherichia coli ATCC® 25922
Haemophilus influenzae ATCC® 19418
Neisseria mengitidis ATCC® 13090
**Pseudomonas aeruginosa* ATCC® 27853
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305
S. pyogenes Gruppe A ATCC® 19615

Eliminierung antimikobieller Agentien:
Zufriedenstellend

Das Chargenprotokoll wurde überprüft und genehmigt. Dadurch wird bestätigt, daß die Charge gemäß den festgelegten Produktspezifikationen formuliert und verarbeitet wurde.

Certificato di controllo qualità

Si certifica che campioni rappresentativi del

TERRENO DI COLTURA BACTEC® PLUS™ AEROBIC/F

sono stati testati presso il Laboratorio di Controllo Qualità secondo le procedure convenzionalmente utilizzate per questo tipo di prodotto comprese la metodologia e le colture di controllo ATCC® specificate nella norma NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, e che tali campioni hanno soddisfatto i seguenti parametri di test:

pH: 7,2 ± 0,2

Sterilizzazione:
Il prodotto è stato sottoposto ad un processo di sterilizzazione a calore umido (precedentemente convalidato in seguito ad una direttiva dell'AAMI+).

Prelievo sotto vuoto:
≥ 8 mL alla fabbricazione.

Prestazioni biologiche:
Crescita soddisfacente:
Alcaligenes faecalis ATCC® 8750
Candida albicans ATCC® 18804
Escherichia coli ATCC® 25922
Haemophilus influenzae ATCC® 19418
Neisseria mengitidis ATCC® 13090
**Pseudomonas aeruginosa* ATCC® 27853
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305
S. pyogenes gruppo A ATCC® 19615

Eliminazione di agenti antimicrobici:
Soddisfacente

La documentazione di partita è stata esaminata ed approvata, verificando che il lotto è stato formulato e trattato in conformità alle specifiche stabilite per questo tipo di prodotto.

Certificado de control de calidad

Se certifica que muestras representativas del

MEDIO BACTEC® PLUS™ AEROBIC/F

se han analizado en el Laboratorio de Control de Calidad mediante los procedimientos que normalmente se utilizan para este tipo de productos, incluyendo la metodología y los cultivos de control ATCC® especificados en la norma por NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, y que han satisfecho los parámetros de análisis citados a continuación:

pH: 7,2 ± 0,2

Esterilización:
El producto fue sometido a un proceso de esterilización mediante calor húmedo (validado anteriormente conforme a las normas de la AAMI+).

Recogida por vacío:
≥ 8 mL al momento de la fabricación.

Rendimiento biológico:
Crecimiento satisfactorio:
Alcaligenes faecalis ATCC® 8750
Candida albicans ATCC® 18804
Escherichia coli ATCC® 25922
Haemophilus influenzae ATCC® 19418
Neisseria mengitidis ATCC® 13090
**Pseudomonas aeruginosa* ATCC® 27853
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305
S. pyogenes grupo A ATCC® 19615

Eliminación de sustancias antimicrobianas:
Satisfactoria

Se ha revisado y aprobado el registro de lotes, lo que verifica que el lote fue formulado y procesado conforme a las especificaciones establecidas para este producto.

Lot / Ch.-B. / Lotto / Lote:

EXP. / Per. / Verw. bis / Scad. / Cad.:

BECTON DICKINSON DIAGNOSTIC INSTRUMENT SYSTEMS

BECTON DICKINSON AND COMPANY
Becton Dickinson Diagnostic Instrument Systems
7 Loveton Circle, Sparks, Maryland 21152 U.S.A.
Call toll free: 800-638-8656 (including MD and Canada)

Canada: **Becton Dickinson Diagnostic Instrument Systems**
6185 Ordan Drive, Unit 2
Mississauga, Ontario L5T 2E1
Toll free: 800-668-5470; (905) 564-0260

Europe: **Becton Dickinson Europe**
B.P. Nº 37
38241 Meylan Cedex, France
Telephone: 76 41 64 64

BACTEC and BACTEC PLUS are trademarks of Becton Dickinson and Company.
ATCC is a trademark of the American Type Culture Collection.

Made in U.S.A. PP-089A

BECTON DICKINSON

Quality Control Certificate

This is to certify that representative samples of

BACTEC® LYTIC/10 ANAEROBIC/F MEDIUM

were tested in the Quality Control Laboratory by procedures conventionally utilized for this type of product, including methodology and control ATCC® cultures specified in the NCCLS standard, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, and met the following test parameters:

pH: 7.2 ± 0.2

Sterilization:
The product was exposed to a moist heat sterilization process (previously validated following an AAMI guideline‡).

Vacuum draw:
≥ 10 mL at time of manufacture.

Biological Performance:
Satisfactory growth:
**Bacteroides fragilis* ATCC® 25285
B. vulgatus ATCC® 8482
Clostridium histolyticum ATCC® 19401
C. perfringens ATCC® 13124
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305

The batch record has been reviewed and approved, which verifies that the lot was formulated and processed within the established specifications for this product.

Certificat de contrôle de qualité

Ceci certifie que des présents échantillons de type

MILIEU BACTEC® LYTIC/10 ANAEROBIC/F

ont été testés dans le Laboratoire de Contrôle de Qualité par les méthodes conventionellement utilisées pour ce type de produit incluant la méthodologie et les cultures de contrôle ATCC® spécifiées dans l'étalon NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, et ont satisfait aux paramètres suivants :

pH : 7,2 ± 0,2

Stérilisation :
Le produit a été exposé à un processus de stérilisation par chaleur humide (validé auparavant selon une directive de l'AAMI‡).

Prélèvement sous vide :
≥ 10 mL au moment de la fabrication.

Rendement biologique :
Croissance satisfaisante :
**Bacteroides fragilis* ATCC® 25285
B. vulgatus ATCC® 8482
Clostridium histolyticum ATCC® 19401
C. perfringens ATCC® 13124
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305

L'enregistrement du lot a été revu et approuvé, certifiant que le lot a été conçu et traité selon les spécifications établies pour ce produit.

Qualitätskontroll-Zertifikat

Hiermit wird bescheinigt, daß repräsentative Proben von

BACTEC® LYTIC/10 ANAEROBIC/F MEDIUM

im Qualitätskontroll-Labor nach für diesen Medientyp gebräuchlichen Verfahren und mit den Methoden und ATCC® Kontrollkulturen des NCCLS-Standards *Quality Assurance for Commercially Prepared Microbiological Culture Media*† getestet wurden und die folgenden Testparameter erfüllten:

pH: 7,2 ± 0,2

Sterilisation:
Das Produkt wurde durch feuchtes Erhitzen sterilisiert (bereits früher nach Richtlinien der AAMI‡ validiert).

Evakuiertes Luftvolumen:
≥ 10 mL zum Zeitpunkt der Herstellung.

Biologisches Verhalten:
Zufriedenstellendes Wachstum:
**Bacteroides fragilis* ATCC® 25285
B. vulgatus ATCC® 8482
Clostridium histolyticum ATCC® 19401
C. perfringens ATCC® 13124
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305

Das Chargenprotokoll wurde überprüft und genehmigt. Dadurch wird bestätigt, daß die Charge gemäß den festgelegten Produktspezifikationen formuliert und verarbeitet wurde.

Certificato di controllo qualità

Si certifica che campioni rappresentativi del

TERRENO DI COLTURA BACTEC® LYTIC/10 ANAEROBIC/F

sono stati testati presso il Laboratorio di Controllo Qualità secondo le procedure convenzionalmente utilizzate per questo tipo di prodotto comprese la metodologia e le colture di controllo ATCC® specificate nella norma NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, e che tali campioni hanno soddisfatto i seguenti parametri di test:

pH: 7,2 ± 0,2

Sterilizzazione:
Il prodotto è stato sottoposto ad un processo di sterilizzazione a calore umido (precedentemente convalidato in seguito ad una direttiva dell'AAMI‡).

Prelievo sotto vuoto:
≥ 10 mL alla fabbricazione.

Prestazioni biologiche:
Crescita soddisfacente:
**Bacteroides fragilis* ATCC® 25285
B. vulgatus ATCC® 8482
Clostridium histolyticum ATCC® 19401
C. perfringens ATCC® 13124
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305

La documentazione di partita è stata esaminata ed approvata, verificando che il lotto è stato formulato e trattato in conformità alle specifiche stabilite per questo tipo di prodotto.

Certificado de control de calidad

Se certifica que muestras representativas del

MEDIO BACTEC® LYTIC/10 ANAEROBIC/F

se han analizado en el Laboratorio de Control de Calidad mediante los procedimientos que normalmente se utilizan para este tipo de productos, incluyendo la metodología y los cultivos de control ATCC® especificados en la norma por NCCLS, *Quality Assurance for Commercially Prepared Microbiological Culture Media*†, y que han satisfecho los parámetros de análisis citados a continuación:

pH: 7,2 ± 0,2

Esterilización:
El producto fue sometido a un proceso de esterilización mediante calor húmedo (validado anteriormente conforme a las normas de la AAMI‡).

Recogida por vacío:
≥ 10 mL al momento de la fabricación.

Rendimiento biológico:
Crecimiento satisfactorio:
**Bacteroides fragilis* ATCC® 25285
B. vulgatus ATCC® 8482
Clostridium histolyticum ATCC® 19401
C. perfringens ATCC® 13124
Escherichia coli ATCC® 25922
Staphylococcus aureus ATCC® 25923
**Streptococcus pneumoniae* ATCC® 6305

Se ha revisado y aprobado el registro de lotes, lo que verifica que el lote fue formulado y procesado conforme a las especificaciones establecidas para este producto.

*NCCLS Strain / souche / Stamm / ceppo / cepa

†National Committee for Clinical Laboratory Standards, Dec. 1990. *Quality Assurance for Commercially Prepared Microbiological Culture Media*, NCCLS publication M22-A, Villanova, PA.

‡Association for the Advancement of Medical Instrumentation, 1987. *Guideline for Industrial Moist Heat Sterilization of Medical Products.* AAMI standard ST25, Arlington, VA.

Lot # / Ch.-B. / Lotto Nº / Lote Nº:

BECTON DICKINSON DIAGNOSTIC INSTRUMENT SYSTEMS

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38241 Meylan Cedex, France
Telephone: 76 41 64 64

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Becton Dickinson and Company
Becton Dickinson Division
1 Becton Drive
Franklin Lakes, NJ 07417-1884

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PRIORITY

REQUEST FOR EXEMPTION FROM 21 CFR 201.66

Docket # 98N0377
Food and Drug Administration
5630 Fisher's Lane
Room 1061
Rockville, MD. 20852