PRODUCT INFORMATION AND QUALITY CONTROL SHEET
PHENYL ETHYL ALCOHOL (PEA) WITH 5% SHEEP BLOOD AGAR

I. INTENDED USE
Phenyl Ethyl Alcohol (PEA) Agar with 5% sheep blood is a selective medium for the isolation of gram positive organisms, especially Staphylococci and Streptococci.

II. SUMMARY AND EXPLANATION
Lilley and Brewer, noting the inhibitory effect of phenyl ethyl alcohol on gram negative bacteria while having minimal effects on gram positive bacteria, incoporated the chemical into an agar base as a selective agent for the isolation of gram positive bacteria[1]. Phenyl ethyl alcohol agar supplemented with 5% defibrinated sheep blood is used in the microbiology laboratory to isolate gram positive bacteria from specimens containing mixed flora, especially *Proteus* species. This medium should not however be used to determine hemolytic reactions since non typical reactions may be observed.

III. PRINCIPLES OF THE PROCEDURE
Phenyl Elthyl Alcohol Agar with 5% sheep blood derives its nutrative qualities from the content of peptones that supply nitrogen, carbon, sulfur and trace nutrients. Sodium chloride maintains osmotic equilibrium. Sheep blood is a source of enrichment for many nutrients and growth factors. Phenyl ethyl alcohol selectively and reversibly inhibits DNA synthesis and therefore is bacteriostatic for gram negative bactericia[2].

IV. TYPICAL FORMULA AND APPEARANCE
(Approximate formula* per liter of processed water)
Appearance = opaque, cherry red

Pancreatic Digest of Casein	15.0 g
Papaic Digest of Soybean Meal	5.0
Sodium Chloride	5.0
β-Phenylethyl Alcohol	2.5
Agar Sheep Blood, defibrinated	5%

*adjusted and/or supplemented to meet performance criteria.

V. PRECAUTIONS
This product is for IN VITRO diagnostic use only. Culture specimens may contain microorganisms which can be potentially infectious to the user. Strict adherence to aseptic techniques and established precautions against microbiological hazards should be followed throughout the procedure. Carefully dispose of all items which contact patient specimens or isolated bacteria. (See Safety Data Sheet for further information.)

VI. STORAGE/SHELF LIFE
Plated media should be stored at 2-8ºC (36-46ºF), media side up, in the unopened or resealed package protected from light.
DO NOT FREEZE OR EXPOSE TO HIGH TEMPERATURES. Allow unopened plates to warm to room temperature prior to inoculation. Prior to and during inoculation procedures, plates should be handled in a manner that minimizes product exposure to the environment Product which has exceeded the assigned expiration date noted on the label should not be used. Do not use plates that exhibit evidence of drying, cracking, discoloration, microbial contamination or any other signs of deterioration. The presence of excessive condensate may indicate plates which have been damaged by exposure to temperature extremes.

VII. SPECIMEN COLLECTION
The quality of culture results depends primarily on the adequacy and condition of the specimen submitted for examination.
Proper specimen collection techniques must be followed to ensure the most accurate culture results. Sterile swabs and collection containers should be used. Plates should be inoculated promptly after specimen collection. If a delay in inoculation is unavoidable, transport medium should be employed. Specimens should be collected prior to the initiation of antimicrobial therapy. Detailed information on proper specimen collection may be obtained from microbiology reference materials.

VIII. MATERIALS PROVIDED
PEA 5% SB Agar Plates and lot specific Quality Control Certificate.

IX. MATERIALS REQUIRED BUT NOT PROVIDED
Incubator maintaining 33-31ºC.
Ancillary culture media, reagents and laboratory equipment as required.

X. PROCEDURE
Inoculate the specimen as soon as possible after it is received in the laboratory. The streak plate method is used primarily to isolate pure cultures from specimens containing mixed flora. If material is being cultured directly from a swab, roll the swab over a small area of the plate surface at the edge

(approximately 1/4 to 1/3 of the plate); then streak in a zig-zag fashion with a sterile loop from this inoculated area to cover the entire agar surface. Avoid applying excessive pressure to the agar surface during inoculation to prevent gouging and splitting of the agar media. (Note: Agar surfaces should be smooth and moist but free of excessive moisture which could cause confluent growth patterns.) Incubate plates media side up at 33-31ºC for 24-48 hours in an aerobic atmosphere. A nonselective medium such as Trypticase Soy Agar with 5% sheep blood should also be inoculated to observe hemolytic reactions of organisms.

XI. EXPECTED RUSULTS

NCCLS Control Organisms (ATCC Strains)

Streptococcus pyogenes Growth, beta hemolysis (ATCC 19615)

Streptococcus pneumoniae Growth, alpha hemolysis (ATCC 6305)

Staphylococcus aureus Growth (ATCC 2592)

Proteus mirabilis Inhibition (partial) (ATCC 12453)

XII. LABORATORY RESULTS

This medium is intended to be used as a primary isolation medium. Presumptive identification of organisms may be made on the basis of typical organism morphology and Gram stain. Definitive identification of organisms and antimicrobial sensitivity determination requires further testing. Additional biochemical information may be obtained from reference microbiology texts.[3, 4, 5]

XIII. LIMITATIONS

The ability to detect microorganisms by culture techniques can be affected by the following factors: improper specimen collection, storage and inoculation . initiation of antiinfective therapy prior to specimen collection, improper culture incubation temperatures and atmospheres, improper length of culture incubation, and improper storage and handling of culture media.

XIV. REFERENCES

1. Lilley, B.D., and J.H. Brewer. 1953. The selective anitibacterial action of phenylehyl alcohol. J. Am. Pharm. Assoc. 42:6-8.
2. Dowell, V.R., Jr., E.O. Hill, and W.A Alteimer. 1964. Use of phenylethyl alcohol in media for isolation of anaerobic bacteria. J. Bacteriol. 88:1811-1813.
3. Finegold, S.M. and W.S. Martin. 1982. Bailey and Scott's Diagnostic Microbiology, 6th ed. C.V. Mosby Company, St, Louis.
4. Koneman, E.S., S.D.AIIen, V.R. Dowell, Jr. and H. M. Sommers. 1983. Color Atlas and Textbook of Microbiology, 2nd ed. J.B. Lippincot Company, Philadelphia. 5. Lennette, E. H., ed. 1985. Manual of Clinical Microbiology, 4th ed. American Society for Microbiology, Washington, D.C.

USER QUALITY ASSURANCE/ QUALITY CONTROL PROCEDURES AND INFORMATION

HealthIlnk recommends that the following quality assurance and quality control procedures be performed on each batch of product.

I. QUALITY ASSURANCE

The following quality assurance procedures must be performed to assure the product will perform according to its intended use within the assigned expiry date:

1. Daily, document that product storage refrigerator maintains temperature within the recommended range: 2-8°C.
2. Daily, document that laboratory incubator maintains temperature within the recommended range: 22-35°C.

II. QUALITY CONTROL

The following incoming inspection procedures must be performed for each batch (batch =same lot, same shipment) of culture media received in the laboratory:

1. Inspect plates according to instructions contained on the "Quality Control Log Sheet." (See also Section VI "STORAGE/SHELF LIFE")
2. Peel off the lower portion of a product bag label (Quality Control Certificate) for the lot being accepted into the laboratory and affix it to the Quality Control Log Sheet.
3. Initial and date the Quality Control Log Sheet.

Note: Notify Technical Service immediately if media does not meet the inspection criteria.

TECHNICAL SERVICE

HealthLink provides a toll free technical service line (1-800-638-2625) to assist with product usage. To receive additional product information, procedural instructions, QA/QC log sheets, Material Safety Data Sheets, or to have technical questions answered; please call between the hours of 9:00am to 5:00pm EST.

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November, 2017

Product No. 1123 Rev. No. 02