



# Technical Data

## HiEnviro-Sponge™ Hydrated w/10ml Lethen Broth, sterile ESM002

### Intended use

Recommended for microbiological sample collection from food processing equipment and other environmental surfaces where neutralization of residues of disinfectants is required which have antimicrobial activity.

### Composition

Ingredients	g / L
Peptone	10.000
HM peptone B #	5.000
Lecithin	0.700
Polysorbate 80 (Tween 80)	5.000
Sodium chloride	5.000
Final pH ( at 25°C)	7.0±0.2

\*\*Formula adjusted, standardized to suit performance parameters

# Equivalent to Beef extract

### Directions

1. To label write on the white print area of the sampling bag.
2. Tear off the top of the bag along the tear line and pull the tabs to open the bag.
3. Guide the sponge out from the top of the bag (wear sterile hand gloves and do not touch the internal surfaces of the bag).
4. Sample the area by ensuring the entire sponge makes full contact with the surface.
5. Transfer the sponge inside the bag.
6. By holding the taped wires roll the bag appropriately and close the bag by folding the taped wires.
7. Incubate the sampled bag at 35 -37°C for 18-24hours.

### Principle And Interpretation

Lethen Broth was developed by Quisno, Gibby and Foter (1) by the addition of lecithin and Polysorbate 80 to FDA Broth. Lethen Broth is recommended by AOAC to determine the phenol coefficient of cationic surfactants (2). Lethen Medium is also recommended for testing of cosmetics (3).

HM peptone B, Peptone, supply essential nutrients and other trace elements for the microbial growth. Lecithin and polysorbate 80 enables the recovery of bacteria from solutions containing residues of disinfectant used in sanitization of utensils and equipments. Lecithin neutralizes quaternary ammonium compounds and polysorbate 80 neutralizes phenolic disinfectants, hexachlorophene and formalin (4).

### Type of specimen

Environmental samples, food industry samples

### Specimen Collection and Handling

For environmental samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (5,6). After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

Read the label before opening the container. Wear protective gloves / protective clothing / eye protection / face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets.

## Limitations

1. Each lot of the medium has been tested for the organisms specified on the COA. It is recommended to users to validate the medium for any specific microorganism other than mentioned in the COA based on the user's unique requirement or observation.
2. Individual strain of a microorganism may have unique growth requirements with respect to nutrients and physical conditions. Based on which the growth pattern of each varies on a medium and some even may display significant delay.

## Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

## Quality control

### Appearance

Sterile HiEnviro-Sponge™ (Cellulose sponge) Hydrated w/ 10ml Letheen Broth in wired sampling bag

### Dose of Irradiation (kGy)

> 25kGy

### Sterility check

Passes release criteria

### Cultural Response

Check for recovery of low CFU Organisms (~10 CFU/ml), inoculated on hydrated sponge w/ 10ml Letheen Broth with hold time of 1 hr ± 15 mins at 20-25°C. Further enrichment in Tryptone Soya Broth is carried out with incubation at 30-35°C for 18-24 hrs, followed by recovery on Selective media.

Organism	Growth
<i>Escherichia coli</i> ATCC 25922 (00013*)	good-luxuriant (Recovery on MacConkey Agar, MP081)
<i>Salmonella</i> Typhimurium ATCC 14028 (00031*)	good-luxuriant (Recovery on XLD Agar, MP031I)
<i>Listeria monocytogenes</i> ATCC 19111 (00020*)	good-luxuriant (Recovery on HiCrome™ Listeria Ottaviani-Agosti Agar Base, MP1540I)

Key : (\*) Corresponding WDCM numbers.

## Storage and Shelf life

Store between 15-30°C. Use before expiry date on the label. Product performance is best if used within stated expiry period.

## Disposal

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (5,6).

## Reference

1. Quisno, R., I.W. Gibby, and M.J. Foter. 1946. Am. J. Pharm. 118:320-323.
2. Horwitz, (Ed.), 2000, Official Methods of Analysis of AOAC International, 17th Ed., Vol.I, AOAC International, Gaithersburg, Mb.
3. American Society for Testing and Materials, 1991, Standard Test Methods for preservatives in water-containing cosmetics, E640-78. Annual Book of ASTM Standards, ASTM, Philadelphia, Pa.
4. Favero (Chm.), 1967, A State of the Art Report, Biological Contamination Control Committee, American Association for Contamination Control.
5. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2<sup>nd</sup> Edition.
6. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.

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