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CEOS BUFFERED PEPTONE WATER

USES

CEOS Buffered peptone water is a diluent for the homogenization of samples in the microbiological analysis and for the preenrichment of Enterobacteriaceae and Salmonella.

Regulations: ISO 11133 / ISO 11290 / ISO 19250 / ISO 21528 / ISO 6579 / ISO 6887

PRINCIPLES AND PROCEDURES

CEOS Buffered Peptone Water is a non-selective medium recommended as a preenrichment medium by the ISO 6579 and ISO 19250 normative for Salmonella detection in food and water respectively and by the ISO 21528 normative for Enterobacteriaceae detection. A feature common to all selective media is that sublethally injured organisms are not generally detected and therefore a recovery step must be included in examination procedures. This is of importance, particularly in the food industry as various processes such as heat, desiccation, preservation processes, pH changes, etc, cause sublethal injuries to Salmonella. The broth is rich in nutrients and produces high resuscitation rates for sublethally injured bacteria and intense growth. Changes in pH may cause damages to bacteria growth. Buffered Peptone Water maintains a high pH over the enrichment period via the phosphate buffer system and allows repair of injured cells sensitive to low pH. Pancreatic digest of casein provides nitrogen, vitamins, minerals and amino acids essential for growth. Sodium chloride supplies essential electrolytes for transport and osmotic balance. Salmonella can be present in food and water in small numbers and are usually found with considerably larger numbers of other Enterobacteriaceae or other families. Pre-enrichment is necessary to allow the detection of small numbers of Salmonella or injured Salmonella. Buffered Peptone Water is also recommended by the ISO 6887 as a diluent for all enumerations of microorganisms and by the ISO 11290 as a diluent for Listeria monocytogenes enumeration.

REAGENTS

CEOS Buffered peptone water (g/l)

Peptone	10.00
Sodium chloride	5.00
Potassium phosphate	1.50
Disodium hydrogen phosphate	3.50

pH 7.0±0.1
Color: transparent, light yellow.

PRECAUTIONS

IVD. Only for professional use. Do not use product if there are visible signs of microbial contamination, color change, drying, cracking or other signs of quality deterioration.
Apply aseptic techniques and identified precautions against microbiological hazards throughtout all procedures.

Prepared plates, bottles, sample bottles and other contaminated materials have to be sterilized in autoclave after use and before disposing.

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STORAGE AND SHELF LIFE

Products that are listed on cardboard packaging are packed in tight plastic foil, for better stability. Products must be kept at dark place and in temperature span suggested on labels, in original packaging until use. Keeping at temperature below 5°C and repeated and/or extreme differences in temperatures can amplify moisture formation. Moisture in form of fine mist or small drops on the inside of the lid, especially during and after keeping in the fridge, is acceptable and sign of medium freshness. Products can be used until expiration date (see packaging label) and incubated during recommended incubation periods.
If products from opened stack are kept on clean place where temperature is between 2-8°C, they can be used for one week (7 days). Exposure to light before and during incubation must be reduced.

USERS QUALITY CONTROL

According to ISO 11133:
Incubation conditions:
Escherichia coli ATCC 8739 according ISO 6887(20-25 °C / 45min -1h) / Staphylococcus aureus ATCC 25923 according to ISO 6887 (20-25 °C / 45min -1h) / Listeria monocytogenes ATCC 13932 according to ISO 11290 (1h±5min / 20±2 ºC)

Escherichia coli ATCC 8739 according ISO 21528 (37±1 °C /18±2 h) / Salmonella enteritidis ATCC 13076 according ISO 21528 (37±1 °C /18±2 h) / Salmonella Typhimurium ATCC 14028 according ISO 21528 (37±1 °C /18±2 h) / Salmonella Typhimurium ATCC 14028 according ISO 6579 (34-38 °C /18±2 h) / Salmonella enteritidis ATCC 13076 according ISO 6579 (34-38 °C /18±2 h) / Salmonella Typhimurium ATCC 14028 according ISO 19250 (36±2 °C /18±2 h) / Salmonella enteritidis ATCC 13076 according ISO 19250 (36±2 °C /18±2 h).

Inoculation conditions: Dilution (10^4 CFU) / Productivity qualitative (10^3-10^4 CFU).

Reference media: TSA.

Microoganism	**Results**
Salmonella enteritidis ATCC 13076	Turbidity (1-2) for the productivity test
Listeria monocytogenes 4b ATCC 13932	±30% of original count for the dilution test
Salmonella typhimurium ATCC 14028	Turbidity (1-2) for the productivity test
Staphylococcus aureus ATCC 25923	±30% of original count for the dilution test
Escherichia coli ATCC 8739	±30% of original count for the dilution test / Turbidity (1-2) for the productivity test

PROCEDURE

Materials provided

CEOS Buffered peptone water. Microbiologically controlled.

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Materials not provided
Additional culture medium, reagents and laboratory equipment if needed.

Test procedure
Procedure recommended according to ISO 6579:
Add 25g of sample to 225ml CEOS Buffered peptone water. If the test sample is greater than 25g, use an appropriate amount of CEOS Buffered peptone water to obtain a 1/10 dilution (w / v). Incubate the initial suspension at 37°C for not less than 16 and not more than 20 hours. Transfer 0.1 ml of pre-enriched culture into a tube containing 10ml of CEOS Rappaport Vassiliadis soy (RVS) broth and 1ml to a flask containing 10ml of CEOS Mueller Kauffmann Novobiocin broth (MKTTn). Incubate inoculated CEOS Rappaport Vassiliadis soy (RVS) broth at 41.5°C±1/24h±3. Incubate inoculated CEOS MKTTn at 37°C±1/24h ± 3. Using cultures grown in CEOS RVS broth, inoculate using an auger (3mm) a large Petri plate or two 90mm Petri plates containing CEOS Xylose lysine deoxycholate agar. In the same way, inoculate another plate medium from the enriched tube, eg CEOS Chromogenic Salmonella agar or other suitable selective *Salmonella* plate medium.
Using the cultures grown in CEOS MKTTn after 24 h incubation, repeat the procedure with two of the same selective plate medium. Turn the plates and incubate at 37°C/24h±3. Examine for the presence of typical colonies. For confirmation, take from each plate (from each selective medium) at least one typical or suspected colony and the following 4 colonies if the first is negative. Pour selected colonies onto the surface of CEOS Nutrient Agar and incubate at 37°C/24h. Use clean colonies for biochemical and serological confirmation.
The biochemical confirmatory test includes: CEOS Triple sugar ferric agar, CEOS Urea agar, L-Lysine Decarboxylase medium, β-Galactosidase identification, VP reaction, indole detection. Serological confirmation involves the detection of the presence of *Salmonella O*-, *Vi* and *H* antigens by a slide agglutination test. Biochemical validation can be replaced by a rapid MUCAP test. All MUAp positive colonies must be confirmed serologically**.**

For the preenrichment of Enterobacteriaceae according to ISO 21528:
- Inoculate Buffered Peptone Water with the portion to be tested and incubate at 37 °C for 48 hours.

Results
The growth was confirmed by the appearance of medium turbidity.

CHARACTERISTICS, PROPERTIES AND PROCEDURE RESTRICTIONS
The type and number of interfering flora in the test sample may affect the recovery and growth of *Salmonella*.

PACKAGING/AVAILABILITY

Tubes, ready to use, 20x10 ml	53107228
Bottles ready to use, 10x90ml	61107228
Bottles ready to use, 10x100ml	54107228
Bottles ready to use, 10x225ml	62107228
Bottles ready to use, 10x500ml	66107228

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MORE INFORMATIONS
For more informations contact manufacturer.

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