ARENA
BioScien

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Maximum Recovery Diluent

Recommended for selective enrichment of gram-negative enteric organisms.

REF: BS.1/MX01.100.0100	100 Gram	REF: BS.1/MX01.250.0250	250 Gram
REF: BS.1/MX01.500.0500	500 Gram		

CLINICAL SIGNIFICANCE

Maximum Recovery Diluent is formulated as recommended by ISO Committee (1) for use as an isotonic diluent. Standard methods for the examination of foodstuffs require sample dilution to be carried out accurately to estimate the number of microorganisms

METHOD PRINCIPLE

Maximum Recovery Diluent combines protective effect of peptone (6) with the osmotic balance of physiological saline (4). The low concentration of peptone helps to maintain the organisms for 1-2 hours of dilution without multiplication. The isotonic property of the diluent ensures the recovery of organisms from various sources, which may be vulnerable in distilled water or aqueous suspensions. Put 10 gm of test sample into a sterile blender jar and add 90 ml of sterile Maximum Recovery Diluent. Operate the blender at 15,000 to 20,000 revolutions per minute. Transfer 1 ml of it to 9 ml of sterile diluent within 15 minutes and mix well. It will be 10 -1 dilution. Appropriate serial dilutions can be prepared using same diluent and counts obtained by spread plate or pour plate technique. Use a positive test sample divided between new and previous diluent. Carry out duplicate tests as described in technique and look for equivalent yields of organisms between the diluent batches. Incubate the tubes with test organisms. At time zero and after 30 minutes at room temperature, subculture a loopful (0.01 ml) onto Soyabean Casein Digest Agar (M290) with 5% v/v sheep blood using streak technique. Incubate plates at 35 ± 2°C for 18-24 hours.

MEDIA COMPOSITION

Item	Formula in g/L
Peptone	1
Sodium chloride	8.5

pH 7.0 ± 0.2 at 25°C

PRECAUTIONS AND WARNINGS

Media to be handled by entitled and professionally educated people. Good Laboratories practices using appropriate precautions should be followed in:

- Wearing personnel protective equipment (overall, gloves, glasses,..).
- Do not pipette by mouth.
- In case of contact with eyes or skin; rinse immediately with plenty of soap and water. In case of severe injuries; seek medical advice immediately.
- Handle specimens and inoculated culture bottles as though capable of transmitting infectious agents. All inoculated culture bottles, specimen collection needles, and blood drawing devices should be decontaminated according to country requirement for waste disposal.

  S56: dispose of this material and its container at hazardous or special waste collection point.

  S57: use appropriate container to avoid environmental contamination.

  S61: avoid release in environment.

For further information, refer to the Maximum Recovery Diluent material safety data sheet.

MEDIA PREPARATION, STORAGE AND STABILITY

STORAGE AND STABILITY

BioScien Maximum Recovery Diluent should be stored between 10-30°C in a firmly closed container and the prepared medium at 2-8°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to avoid lump development due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in a dry ventilated area protected from extremes of temperature and sources of ignition. Seal the container tightly after use. Product performance is best if used within the stated expiry period.

PROCEDURE

Suspend 9.5 grams in 1000 ml purified/distilled water.
Heat if necessary to dissolve the medium completely.
Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.
Cool to 45-50°C. Mix well and dispense into tubes or flasks as desired.

Deterioration

BioScien Maximum Recovery Diluent is white to pale yellow homogeneous free flowing powder. Prepared medium is Light yellow coloured clear solution without any precipitate. should not be used if there are any signs of deterioration (shrinking, cracking, or discoloration), and contaminations

SPECIMEN COLLECTION AND PRESERVATION

For clinical samples follow appropriate techniques for handling specimens as per established guidelines (11,12). For food and dairy samples, follow appropriate techniques for sample collection and processing as per guidelines (9,10,13). After use, contaminated materials must be sterilized by autoclaving before discarding.

TYPE OF SPECIMEN

Water Samples
Environmental samples

EQUIPMENT REQUIRED NOT PROVIDED

- Sterile cups
- Sterile tubes
- Autoclave
- Incubator

QUALITY CONTROL

To ensure adequate quality control, it is recommended that positive and negative control included in each run. If control values are found outside the defined range, check the system performance. If control still out of range please contact the technical support.

PERFORMANCE CHARACTERISTICS

The following organisms are used by us as part of the quality assurance of the product. The total inoculum challenge for each test organism per bottle is 10 to 50 colony forming units (CFU's).

Test Organisms	Recovery (after 30 minutes)
Escherichia coli ATCC 25922	no change in numbers
Staphylococcus aureus subsp aureus ATCC 25923	no change in numbers

REFERENCES

1. International Organization for the Standardization (ISO), ISO/DIS 6649.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition
3. 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.
4. Patterson J. W. and Cassells J. A., 1963, J. Appl. Bacteriol., 26:493.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Straker R. P. and Stokes J. L., 1957, Appl. Microbiol., 5:21.

SYMBOLS IN PRODUCT LABELLING	
IVD For in-vitro diagnostic use LOT Batch Code/Lot number REF Catalogue Number Temperature Limitation Expiration Date Manufactured by	Number of <n> test in the pack Caution Do not use if package is damaged Consult Instruction for use