

07233 Maximum Recovery Diluent (Peptone Saline Diluent)

Maximum Recovery Diluent is a protective and isotonic medium used for maximal recovery of microorganisms from a variety of sources. The low concentration of peptone does not cause multiplication of the organisms within 1-2 hours of dilution of the sample.

Composition:

Ingredients	Grams/Litre
Peptic digest of animal tissue	1.0
Sodium chloride	8.5
Final pH 7.0 +/- 0.2 at 25°C	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C. The appearance of the broth is light yellow coloured and clear.

Directions:

Suspend 9.5 g in 1000 ml of purified water. Heat if necessary to dissolve the medium completely. Sterilize at 121°C for 15 minutes.

Sample handling:

For the ISO method ¹ put 10 g of the test sample into a sterile vessel or sterile plastic bag. Add 90 ml of sterile Maximum Recovery Diluent and homogenise with a blender or Stomacher. Transfer 1 ml of the macerate, within 15 minutes, to 9 ml of sterile diluent and mix well. Dilute further from this solution in the ratio of 1:10 (1 ml to 9 ml). The number of dilutions depends on the expected contamination of the sample. Transfer 1ml of each dilution or of the initial suspension in duplicate into the centre of a petri dish. Add 15 to 20 ml medium of choice with agar and allow to solidify and incubate.

Principle and Interpretation:

Maximum Recovery Diluent is formulated as recommended by the ISO Committee (1) and the German Lebensmittelgesetzbuch § 35 (4) as an isotonic diluent. It combines the protective effect of peptic digest of animal tissue (2) with the osmotic balance of physiological saline (3). The low concentration of peptic digest of animal tissue helps to maintain the organisms for 1-2 hours without multiplication. The isotonic property ensures the recovery of organisms from diverse specimens. In distilled water or aqueous suspensions, the lethal rate would be higher because of the sublethally injured organisms.

Quality control:

Organisms (ATCC)	Colony count (at room temperature) after:
<i>Escherichia coli</i> (25922)	0, 2, 4, 6 hours
<i>Enterococcus faecalis</i> (11700)	0, 2, 4, 6 hours

References:

1. International Organisation for the Standardisation (ISO), Meat and Meat Products-Detection and Enumeration of *Clostridium perfringens*, ISO/DIS 6649 (1983)
2. R.P. Straker, J.L. Stokes, Appl. Microbiol., 5. 21-25 (1957)
3. J.W. Patterson, J.A. Cassells, J. Appl. Bact. 26. 493-497 (1963)
4. Amtliche Sammlung von Untersuchungsverfahren nach § 35 LM BG 01.00/1, 02.07/1, 03.00/1, 04.00/1, 06.00/16, 42.00/1, 48.01/6.

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.

