

Also known as

UNIVERSAL DILUENT

Specification

Isotonic diluent for the maximal recovery of stressed microorganisms according to ISO standards.

Formula * in g/L

Pancreatic digest of casein (Tryptone).....1,00

Sodium chloride.....8,50

pH final 7,0 ±0,2 at 25 °C

* Adjusted and /or supplemented as required to meet performance criteria

Directions

Dissolve 9,5 g of powder in 1 L of distilled water and distribute into suitable containers. Sterilize in the autoclave at 121°C for 15 minutes.

Description

This formulation combines the osmotic pressure of the physiological saline solution with the protective action of the peptone to obtain good recovery of stressed microorganisms.

The sodium chloride ensures isotonic conditions and the low concentration of peptone does not allow cellular growth in the short period (2-3 hours) of time required for the preparation of the dilution bank of the sample.

Technique

According to the ISO method, the sample is diluted in a ratio 1:10 with the Maximum Recovery Diluent and homogenized by a vortex mixer or Stomacher®. After a short period (10-15 minutes) of rest, a 1/10 dilution bank with the same diluent is prepared following standard procedures. Plates are inoculated using the range of different concentrations.

Quality control
Incubation temperature: 35°C ±2,0

Incubation time: Recovery 24 h

Inoculum: 1000-10000 CFU / tube (Productivity) at T0, 45 minutes and 1 h. (20-25°C) ; according ISO 11133:2014/Amd 1:2018

Microorganism
Growth
Remarks
Staphylococcus aureus ATCC® 6538

Good

Recovery ±30% T0, in TSA

Pseudomonas aeruginosa ATCC® 9027

Good

Recovery ±30% T0, in TSA

Escherichia coli ATCC® 8739

Good

Recovery ±30% T0, in TSA

Candida albicans ATCC® 10231

Good

Recovery ±30% T0, in SDA

References

- ISO 6887-1: 1999 Microbiology of food and animal feeding stuffs. Preparation of test samples, initial suspension and decimal dilutions for microbiological examination - Part 1: General rules for the preparation of the initial suspension and decimal dilutions - Part 2 (2003): Specific rules for the preparation of meat and meat products.
- ISO Standard 8199 (2018) Water Quality - General requirements and guidance for microbiological examinations by culture.
- ISO 8261: 2001 Standard. Milk and milk products - General guidance for the preparation of test samples, initial suspension and decimal dilution for microbiological examination.
- ISO 11133:2014. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.
- ISO 16212 Standard (2017) Cosmetics - Microbiology - Enumeration of yeast and mould.
- ISO 18415 Standard (2017) Cosmetics - Microbiology - Detection of specified and non-specified microorganisms.
- ISO 18416 Standard (2015) Cosmetics - Microbiology - Detection of *Candida albicans*.
- ISO 21149 Standard (2017) Cosmetics - Microbiology - Enumeration and detection of aerobic mesophilic bacteria.
- ISO 21150 Standard (2015) Cosmetics - Microbiology - Detection of *Escherichia coli*.
- ISO 22717 Standard (2015) Cosmetics - Microbiology - Detection of *Pseudomonas aeruginosa*.
- ISO 22718 Standard (2015) . Cosmetics - Microbiology - Detection of *Staphylococcus aureus*.

Storage

For laboratory use only. Keep tightly closed, away from bright light, in a cool dry place (+4 °C to 30 °C).