MAXIMUM RECOVERY DILUENT (7658)

Intended Use

Maximum Recovery Diluent (Peptone Saline Diluent) is used as an isotonic diluent for maximum recovery of microorganisms in a laboratory setting. Maximum Recovery Diluent (Peptone Saline Diluent) is not intended for use in the diagnosis of disease or other conditions in humans.

Product Summary and Explanation

Maximum Recovery Diluent provides the nutritious properties of peptone with the osmotic support of physiological saline. The low peptone concentration in the diluent at a pH of 7.0 ± 0.2 reduces organism multiplication in the sample for at least one hour during the dilution stage.[1,2] The isotonic strength of the diluent ensures recovery and minimizes physiological shock normally experienced by microorganisms upon inoculation. The presence of peptone in Maximum Recovery Diluent provides viable counts to ensure accurate quantitative procedures are performed.

Principles of the Procedure

Peptone is the nitrogen, carbon, vitamin, and mineral sources in Maximum Recovery Diluent. Sodium Chloride maintains the osmotic balance.

Formula / Liter

Peptone..... 1.0 g
Sodium Chloride ..... 8.5 g
Final pH: 7.0 ± 0.2 at 25°C
Formula may be adjusted and/or supplemented as required to meet performance specifications.

Precautions

1. For Laboratory Use Only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Dissolve 9.5 g of the medium in one liter of purified water.
2. Mix thoroughly.
3. Autoclave at 121°C for 15 minutes.

Quality Control Specifications

Dehydrated Appearance: Powder is homogeneous, free flowing, and light beige.

Prepared Appearance: Prepared medium is brilliant to clear, pale straw with no precipitate.

Expected Cultural Response: Cultures were held for 2 hours under ambient conditions, subcultured onto recovery media, and viable counts determined.

Microorganism	Approx. Inoculum (CFU)	Expected Growth
Escherichia coli ATCC® 25922	10 - 300	Recovered at initial levels
Staphylococcus aureus ATCC®25923	10 - 300	Recovered at initial levels
Bacillus subtilis ATCC®6633	10 - 300	Recovered at initial levels

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer to appropriate references for specific dilution procedures in food testing.[1,2,3,4]

Results
Refer to appropriate references for test results.

Storage
Store sealed bottle containing the dehydrated medium at 2 - 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

Expiration
Refer to expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitation of the Procedure
Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

Packaging

Maximum Recovery Diluent	**Code No.**	**7658A**	**500 g**
		7658B	**2 kg**
		7658C	**10 kg**

References

1. **Straka, R. P. and Stokes, J. L.** 1957. Rapid destruction of bacteria in commonly used diluents and its elimination. Appl. Microbiol. **5**:21-25.
2. **Patterson, J. T., and J. A. Cassells.** 1963. An examination of the value of adding peptone to diluents used in the bacteriological testing of bacon curing brines. J. Appl. bacteriol. **26**:493-497.
3. **Vanderzant, C., and D. F. Splittstoesser (eds.).** Compendium of methods for the microbiological examination of foods, 3rd ed. American Public Health Association, Washington, D.C.
4. **U.S. Food and Drug Administration.** Bacteriological analytical manual, 8th ed., AOAC International, Gaithersburg, MD.

Technical Information
Contact Acumedia Manufacturers, Inc. for Technical Service or questions involving dehydrated culture media preparation or performance at (517)372-9200 or fax us at (517)372-2006.

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