



## Yeast extract Agar, Modified

M456I

### Intended Use:

Recommended for enumeration of microorganisms from water. The composition and performance criteria of this medium are as per the specifications laid down in ISO 6222:1999.

### Composition\*\*

#### ISO specification - Yeast extract Agar

Ingredients	g / L
Tryptone (Peptone from Casein, pancr.)	6.000
Dehydrated yeast extract	3.000
Agar, powdered or in pellets	10.00 - 20.00
Final pH ( after sterilization)	7.2±0.2

#### Yeast extract Agar, Modified M456I

Ingredients	g/ L
Tryptone	6.000
Yeast extract	3.000
Agar	15.000
Final pH ( at 25°C)	7.2±0.2

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 24 grams in 1000 ml purified / distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121±3°C) for 15±1 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

### Principle And Interpretation

Yeast Extract Agar, Modified is a non selective medium formulated according to the ISO specification ISO 6222:1999 for enumeration of microorganisms from water (1).

Necessary growth nutrients are provided by tryptone and yeast extract. These serve as source of nitrogen, vitamins, growth factors as well as crude source of carbon. Agar acts as a solidifying agent.

### Type of specimen

Water samples

### Specimen Collection and Handling:

For water samples, follow appropriate techniques for sample collection, processing as per guidelines and local standards (1). After use, contaminated materials must be sterilized by autoclaving before discarding.

### Warning and Precautions

Read the label before opening the container. Wear protective gloves/protective clothing/eye protection/ face protection. Follow good microbiological lab practices while handling specimens and culture. Standard precautions as per established guidelines should be followed while handling specimens. Safety guidelines may be referred in individual safety data sheets

### Limitations

1. Due to varying nutritional requirements, some strains may be encountered that grow poorly.
2. Further serological or biochemical testing is required for complete identification.

### Performance and Evaluation

Performance of the medium is expected when used as per the direction on the label within the expiry period when stored at recommended temperature.

### Quality Control

#### Appearance

Cream to yellow coloured homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.5% Agar gel

#### Colour and Clarity of prepared medium

Yellow coloured clear to very slightly opalescent gel forms in Petri plates.

**Reaction**

Reaction of 2.4% w/v aqueous solution at 25°C. pH : 7.2±0.2

**pH**

7.00-7.40

**Cultural Response**

**Productivity** : Cultural response was observed after an incubation at 36 ± 2°C for 44 ± 4 hours. Recovery rate is considered as >=70% for bacteria growth on previously validated batch of Yeast Extract Agar, Modified

Organism	Inoculum (CFU)	Growth	Recovery
<b>Productivity</b>			
<i>Escherichia coli</i> ATCC 25922 (00013*)	50-100	luxuriant	>=70%
<i>Escherichia coli</i> ATCC 8739 (00012*)	50-100	luxuriant	>=70%
** <i>Bacillus spizizenii</i> ATCC 6633 (00003*)	50-100	luxuriant	>=70%

Key : (\*) Corresponding WDCM numbers, (\*\*) - Formerly known as *Bacillus subtilis* subsp. *spizizenii*

**Storage and Shelf Life**

Store between 10-30°C in a tightly closed container and the prepared medium at 20-30°C. Use before expiry date on the label. On opening, product should be properly stored dry, after tightly capping the bottle in order to prevent lump formation due to the hygroscopic nature of the product. Improper storage of the product may lead to lump formation. Store in 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 stated expiry period.

**Disposal**

User must ensure safe disposal by autoclaving and/or incineration of used or unusable preparations of this product. Follow established laboratory procedures in disposing of infectious materials and material that comes into contact with sample must be decontaminated and disposed of in accordance with current laboratory techniques (2,3).

**Reference**

1. ISO 6222:1999 water quality Enumeration of culturable microorganisms Colony count by incubation in a nutrient agar culture medium.
2. Isenberg, H.D. Clinical Microbiology Procedures Handbook 2<sup>nd</sup> 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.

Revision : 03 / 2024

**Disclaimer :**

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