

## Yeast Extract Agar (YEA) ISO

For the enumeration of a wide spectrum of bacteria, yeasts and molds in water

### Practical information

Applications	Categories
Non selective enumeration	General use

Industry: Water

Regulations: ISO 11133 / ISO 6222

### Principles and uses

Yeast Extract Agar is a medium rich in nutrients that permits the recovery of a wide spectrum of bacteria, yeasts and molds. This medium is recommended by ISO 6222 for the plate count of microorganisms in all types of water, including for human consumption.

Tryptone provides nitrogen, vitamins, minerals and amino acids essential for growth. Yeast extract is the water-soluble portion of hydrolyzed yeast and is a source of vitamins, particularly of the B-group. Bacteriological agar is the solidifying agent.

The norm ISO 6222 recommend this medium for the enumeration of culturable microorganisms in potable water at 36 °C and 22 °C.

### Formula in g/L

Bacteriological agar	15	Tryptone	6
Yeast extract	3		

### Preparation

Suspend 24 grams of the medium in one liter of distilled water. Mix well and dissolve by heating with frequent agitation. Boil for one minute until complete dissolution. Sterilize in autoclave at 121°C for 15 minutes. Cool to 45±1 °C, mix well and dispense into plates.

### Instructions for use

According to ISO 6222:

Poured plate method:

- Dispense a sample volume or dilution of no more than 2 ml per plate.
- Add 15-20 ml of YEA medium. Let it solidify.
- Invert the plates and incubate at 36±2 °C for 44±4 hours.
- Count the colonies that are observed in each plate and calculate the estimated number of CFU present per ml of sample.

### Quality control

Solubility	Appearance	Color of the dehydrated medium	Color of the prepared medium	Final pH (25°C)
w/o rests	Fine powder	Beige	Amber, slightly opalescent	7,2±0,2

### Microbiological test

According to ISO 11133:

Incubation conditions: (36±2 °C / 44±4 h)

Inoculation conditions: Productivity quantitative (100±20. Min. 50 CFU).

Reference media: Media batch Yeast Extract Agar already validated.

Rest of strains:

Incubation conditions: (22±2 °C / 68±4 h)

Microrganisms	Specification
Candida albicans ATCC 10231	Good growth
Aspergillus brasiliensis ATCC 16404	Good growth
Escherichia coli ATCC 25922	Good growth (2) >70%
Bacillus subtilis ATCC 6633	Good growth (2) >70%
Penicillium chrysogenum ATCC 8537	Good growth

Storage

Temp. Min.:2 °C  
Temp. Max.:25 °C

Bibliography

ISO 6222 Water Quality. Enumeration of culturable micro-organisms- colony count by inoculation in a nutrient agar culture medium.