Reference: 301250ZA **Technical Data Sheet**

Product: # Tryptone Yeast Extract Agar

Specification

Solid medium used for the enumeration of water microorganisms according to ISO standards.

Presentation

	Packaging Details	Shelf Life	Storage
10 Prepared bottle Bottle 125 ml with: 100 ± 3 ml	1 box with 10 bottles 125 ml. Plastic screw inner cap. The use of syringes needles with a diameter greater than 0.8 mm is not recommended.	12 months	8-25 ºC

Composition

Composition (g/l):
Yeast Extract..... 3.00
Tryptone..... 6.00
Agar..... 15.0

Description /Technique

Description
This medium, formulated according to ISO Standard 6222 and others is for the enumeration of heterotrophic microorganisms from water. Medium known as “Tryptone Yeast Extract Agar” and “Water Plate Count Agar”.

Technique
Melt the medium contained in bottles in a water bath (aprx. 100ºC) or in microwave oven, avoiding overhating, before pouring into Petri dishes when cooled to room temperature.

Using a water sample obtained according to the ISO Standard 5667-2 and 5667-3, make a decimal dilution series (see ISO Standard 6887) using 1/4 Ringer Solution and take aliquots to 2 parallel series of plates. Pour the sterilized Tryptone Yeast Extract Agar cooled to 45°C, and homogenize with the sample (see ISO Standard 8199). Once solidified, incubate one of the series at 36 ± 2°C for 48 ± 2 hours and the other one at 22ºC for 3 days (72 ± 4 hours).
In order to achieve a good count, select plates with 30-300 colonies. Express the results as number of colony forming units per millilitre (CFU/mL) of sample for each temperature of incubation. If there are no colonies with the undiluted sample express the results as "none detected in one mL". If there are more than 300 colonies in the highest dilution express the results as ">300 CFU/mL".

Note: The solid mediums can be melted in different ways: autoclave, bath and, if the customer considers appropriate, also the microwave. Whenever the microwave option is chosen, it is necessary to take certain safety measures to avoid breaking of the containers, such as loosening the screw cap and putting the bottle or tube in a water bath in the microwave. The fusion temperature and time will depend on the shape of the container, the volume of medium and the heat source. Avoid overheating as both the heating periods.

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Quality control

Physical/Chemical control

Color : Yellowish pH: 7.2 ± 0.2 at 25ºC

Microbiological control

Melt Medium - Prepare Plates - Spiral Spreading: Practical range 100 ± 20 CFU. min. 50 CFU (productivity)

Analytical methodology according to ISO 11133:2014/A1:2018; A2:2020.

Aerobiosis. Incubation at 36 ± 2 ºC, reading at 44±4 h

Reference medium : YEA (validated). Microbiological control according to ISO 11133:2014/A1:2018

Microorganism	Growth
Escherichia coli ATCC® 25922, WDCM 00013	Good (≥70%)
Ps. aeruginosa ATCC® 27853, WDCM 00025	Good (≥70%)
Bacillus subtilis ATCC® 6633, WDCM 00003	Good (≥70%)
Stph. aureus ATCC® 25923, WDCM 00034	Good (≥70%)
Escherichia coli ATCC® 8739, WDCM 00012	Good (≥70%)

Sterility Control

Incubation 48 h at 30-35 ºC and 48 h at 20-25 ºC: NO GROWTH.
Check at 7 days after incubation in same conditions.

Bibliography

· ISO Standard 6222 Water Quality - Enumeration of cultivable microorganisms. Colony count by inoculation in a nutrient agar culture.
· ISO Standard 5667-2 (1991) Water Quality - Sampling - Guidance on sampling techniques.
· ISO Standard 5667-3 (1996) Water Quality - Sampling - Guidance on the preservation and handling of samples.
· ISO Standard 6887 (1999) Microbiology - General - Guidance for the preparation of dilutions for microbiological examination.
· ISO Standard 8199 (1988) Water Quality - General guide to the enumeration of microorganisms by culture.
. ISO 11133:2014/ Adm 1:2018. Microbiology of food, animal feed and water. Preparation, production, storage and performance testing of culture media.