TM 092 – DEXTROSE TRYPTONE AGAR

INTENDED USE
For detection and enumeration of mesophilic and thermophilic aerobic organisms in foods.

PRODUCT SUMMARY AND EXPLANATION
Canned foods are most often prone to flat-sour spoilage due to contamination by either mesophilic or thermophilic aerobic spore-formers. Inadequate heat processing is commonly responsible for flat-sour spoilage since spores of mesophilic bacteria are moderately resistant to moist heat. Also *Bacillus stearothermophilus* is the typical species responsible for this type of spoilage. *Bacillus coagulans (Bacillus thermoacidurans*, a soil organism) is frequently isolated from flat-sour spoilage of canned tomato and dairy products. In flat-sour spoilage, carbohydrates are fermented with the production of lower fatty acids, which sour the product. The small amount of gas produced does not affect the flat appearance of the ends of container.
Dextrose Tryptone Agar, formulated by Williams is recommended for the detection and enumeration of thermophilic flat sour spoilage organisms. It is also recommended for general cultural studies by Cameron and other associations. Dextrose Tryptone Agar is also useful for enumeration of mesophiles and thermophiles in cereal and cereal products, dehydrated fruits, vegetables and spices.

COMPOSITION

Ingredients	Gms / Ltr
Tryptone	10.000
Dextrose (Glucose)	5.000
Bromocresol purple	0.040
Agar	15.000

PRINCIPLE
The medium consists of Tryptone which provides essential nutrients to the organisms. Dextrose serves as an energy source by being the fermentable carbohydrate while bromo cresol purple is a pH indicator. Acid producing organisms produce yellow colonies. The plates should be incubated at 55°C for 48 hours in a humid incubator. While using the agar media, serially diluted test sample are mixed with the media in sterile Petri dishes. Standard procedures issued by various associations should be followed for testing of samples.

INSTRUCTION FOR USE
- Dissolve 30.04 grams in 1000 ml purified/distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 15 minutes. Cool to 45-50°C.
- Mix well and pour into sterile Petri plates.

QUALITY CONTROL SPECIFICATIONS
Appearance of Powder : Light yellow to greenish yellow homogeneous free flowing powder.
Appearance of prepared medium : Purple coloured, clear to slightly opalescent gel forms in Petri plates.
pH (at 25°C) : 6.7 ± 0.2

INTERPRETATION
Cultural characteristics observed after incubation.

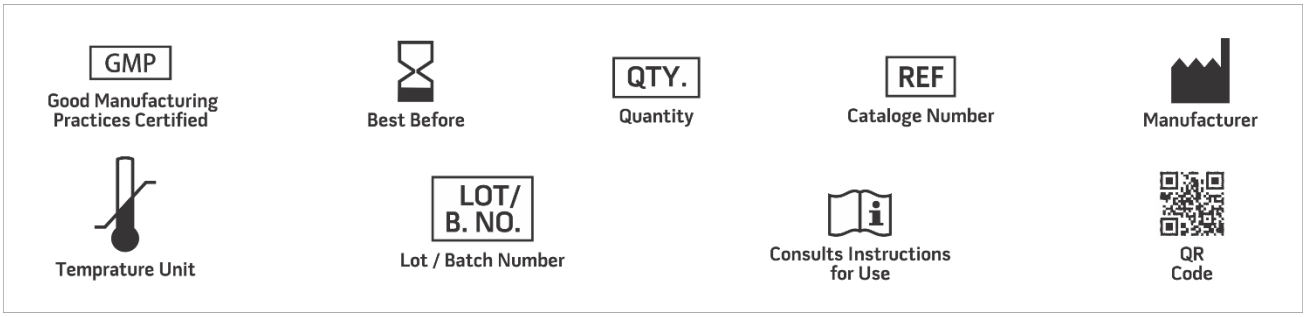
Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Recovery	Colour of colony	Incubation Temperature	Incubation Period
Bacillus brevis	8246	50-100	Good-luxuriant (with or without dextrose fermentation)	50-70%	Yellow	54-56 °C	36-48 Hours
Bacillus coagulans	8038	50-100	Good-luxuriant	50-70%	Yellow	54-56 °C	36-48 Hours
Bacillus stearothermophilus	7953	50-100	Good-luxuriant	50-70%	Yellow	54-56 °C	36-48 Hours

PACKAGING:
In pack size of 500 gm bottles.

STORAGE
Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 25-30°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL
After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES
1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed.,Washington D.C.
2. Association of Official Analytical Chemists, 1978, Bacteriological Analytical Manual, 5th Edition, AOAC, Washington, D.C.
3. Gordon R. E., Haynes and Pang C. H. N., 1973, The Genus Bacillus, Agriculture Handbook No. 407, U.S. Department of Agriculture, Washington, D.C.
4. Hersom A. C., and Hulland E. D., 1964, Canned Foods, An Introduction to Their Microbiology, (Baumgartner) 5th Ed. Chemical Publishing Company, Inc. New York, N.Y.
5. National Canners Association, 1954, A Laboratory Manual for the Canning Industry, 1st Edition, National Canners Associations, Washington.
6. National Canners Association, 1968, Laboratory Manual for Food Caners and Processors, Vol. I.
7. Williams O. B., 1936, Food Res., 1:217.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**
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