## **PRODUCT DATA SHEET**

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# TM 868 - STARCH MILK AGAR

#### **INTENDED USE**

For detection of spores in heated milk and milk products.

## **PRODUCT SUMMARY AND EXPLANATION**

The milk secreted in an uninfected cow's udder is sterile. Contamination of this milk can occur during milking, cooling and storage. Milk is an excellent medium for bacteria, yeast and moulds. Their rapid growth can cause marked deterioration, spoiling the milk for liquid consumption or manufacture into dairy products. Human infection can occur by consumption of such contaminated milk or milk products. Spore-forming bacteria can survive food-processing treatments. In the dairy industry, *Bacillus* and *Clostridium* species determine the shelf-life of a variety of heat-treated milk products, mainly if the level of post-process contamination is low.

Starch Milk Agar is used for the detection of spores in heated milk and milk products. It helps in the demonstration of starch hydrolysis and proteolytic activity of spore producing organisms in milk and milk products. Proteolytic bacteria will be surrounded by a clear zone, due to the conversion of casein into soluble nitrogenous compounds.

## COMPOSITION

Ingredients	Gms / Ltr		
Peptic digest of animal tissue	5.000		
Yeast Extract	1.500		
Beef extract	1.500		
Skim milk powder	1.000		
Starch, soluble	1.000		
Agar	15.000		

#### PRINCIPLE

Peptic digest of animal tissue, beef extract and yeast extract are sources of nitrogen and other growth factors. Skim milk powder acts a source of casein while starch serves as an energy source which also neutralizes the toxic metabolites. Agar is the solidifying agent.

#### **INSTRUCTION FOR USE**

- Dissolve 25.0 grams in 1000 ml distilled water.
- Heat to boiling to dissolve the medium completely.
- Sterilize by autoclaving at 15 psi pressure (121°C) for 20 minutes.
- Mix well before pouring into sterile Petri plates.

#### **QUALITY CONTROL SPECIFICATIONS**

Appearance of Powder	: Cream to yellow coloured homogeneous free flowing powder.			
Appearance of prepared medium	: Light yellow coloured slightly opalescent gel forms in Petri plates.			
pH (at 25°C)	: 7.2±0.2			

#### **INTERPRETATION**

Cultural characteristics observed after an incubation.

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Microorganism	ATCC	lnoculum (CFU/ml)	Growth	Recovery	Incubation Temperature	Incubation Period
Bacillus cereus	10876	50-100	Luxuriant	>=70%	35-37°C	18-48 Hours
Bacillus coagulans	8038	50-100	Luxuriant	>=70%	35-37°C	18-48 Hours
Bacillus subtilis	6633	50-100	Luxuriant	>=70%	35-37°C	18-48 Hours
Bacillus thuringiensis	10792	50-100	Luxuriant	>=70%	35-37°C	18-48 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. Harrigan W.F., Laboratory Methods in Food Microbiology.
- 2. Collee J. G., Fraser A. G., Marimon B. P., Simmons A., (Eds.), Mackie and McCartney, Practical Medical Microbiology, 1996, 14th Edition, Churchill Livingstone.
- 3. Methods of Microbiological Examination for Dairy Purposes, Diluents, Media and Apparatus and their Preparation and Sterilization, Sec. 1.2.



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NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices. \*For Lab Use Only Revision: 08 Nov., 2019

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