

# TMV 751 – L. S. DIFFERENTIAL MEDIUM BASE (LACTOBACILLUS STREPTOCOCCUS DIFFERENTIAL MEDIUM BASE) (VEG.)

#### **INTENDED USE**

For differentiation of Lactobacilli and Streptococci on the basis of colony morphology, TTC reduction and casein reaction.

#### PRODUCT SUMMARY AND EXPLANATION

L. S. (Lactobacillus Streptococcus) Differential Medium Base (Veg) has Veg hydrolysate and Veg extract, of vegetable source in place of Casein enzymic hydrolysate and Beef extract respectively. This medium is therefore BSE/TSE risk free associated with animal based peptones. L.S. (Lactobacillus Streptococcus) Differential Medium Base (Veg) is the modification of L.S. Differential Medium Base developed by Eloy and Lacrosse for isolation and differentiation of Lactobacilli and Streptococci in yoghurt. Yoghurt is manufactured by controlled fermentation of milk held at 43°C using a starter culture of Streptococcus thermophilus and Lactobacillus bulgaricus. These two organisms have a complementary relationship. The Streptococci grow first and reduce redox potential and enables Lactobacilli to multiply which in turn produce growth stimulatory products for Streptococci and characteristic flavors associated with mature yoghurt.

## **COMPOSITION**

Ingredients	Gms / Ltr	
Veg hydrolysate	10.000	
Papaic digest of soyabean meal	5.000	
Veg extract	5.000	
Yeast extract	5.000	
Dextrose	20.000	
Sodium chloride	5.000	
L-Cysteine hydrochloride	0.300	
Agar	15.000	

#### **PRINCIPLE**

This medium consists of Veg hydrolysate, L-cysteine hydrochloride, papaic digest of soyabean meal, Veg extract and yeast extract which act as sources of carbon, nitrogen, vitamins and minerals. Sodium chloride helps in maintaining osmotic balance. Test samples of yoghurt or starter cultures are added to melted and cooled L.S. Differential Medium Base. These are mixed thoroughly and plates are poured. The plates are incubated at 43°C for 48 hours.

## **INSTRUCTION FOR USE**

- Dissolve 65.3 grams in 890 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 50°C and aseptically add the following sterile solutions previously kept warm at 50°C just prior to use; (1) 100 ml of 10% w/v aqueous solution of antibiotic-free skim milk powder sterilized at 15 psi pressure (121°C) for
  - (2) 10 ml of 2, 3, 5-Triphenyl-Tetrazolium Chloride (T.T.C.) Solution.
- Mix well and pour into sterile Petri plates.













#### **QUALITY CONTROL SPECIFICATIONS**

: Light yellow coloured, may have slightly greenish tinge, homogeneous, free Appearance of Powder

flowing powder.

: Light yellow coloured opalescent gel forms in Petri plates. Appearance of prepared medium

pH (at 25°C) : 6.1 ± 0.2

#### INTERPRETATION

Cultural characteristics observed with added antibiotic free skim milk powder and 1% T.T.C solution, after incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Colony characteristics	Incubation Temperature	Incubation Period
Lactobacillus bulgaricus	41842	50-100	Red, rhizoidal, surrounded by opaque zone	43-45 °C	48 Hours
Streptococcus thermophilus	14485	50-100	Red, smooth, surrounded by clear zone	43-45 °C	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.

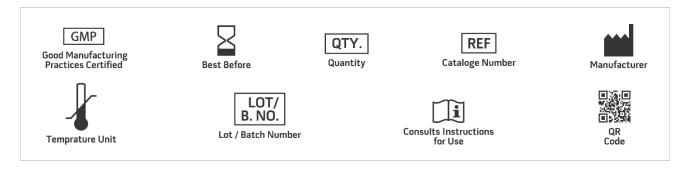
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

#### **DISPOSAL**

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

# **REFERENCES**

- 1. Eloy C. and Lacrosse R., 1976, Bull. Rech. Agron Gembloux, 11(1-2):83.
- 2. Davis J.G., Ashton T.F. and McCaskill M., 1971, Dairy Ind., 36:569.
- 3. Pette J.W. and Lolkema H., 1950, Neth. Milk Dairy J., 4:261.
- 4. Stocklin P., 1969, Cultured Dairy Prod. J., 4 (3), 6.
- 5. Sellars R.L. and Babel F. J., 1970, "Cultures for the Manufacture of Dairy Products", Chr. Hansens's Laboratory, Inc., Milwankee, Wis.















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









