



PRODUCT SPECIFICATION SHEET

Fluid Lactose Medium (DM527U)

Intended Use

Fluid Lactose Medium (DM527U) is recommended for detection of coliforms in water, foods, dairy products in compliance with USP.

Product Summary and Explanation

Coliforms are defined as rod-shaped gram-negative organisms, which ferment lactose with the production of acid and gas when incubated at 35°C. They are regarded as bacterial indicators of sanitary quality of foods and water. *Salmonella* is a rod shaped gram-negative enterobacteria and is the primary cause of food-borne illness among enteric pathogens. These bacteria are present in low numbers in food and other products and also may be in a stressed condition. For maximum recovery a pre-enrichment is necessary, before subjecting them to selective enrichment. Also, the presence of non-coliform bacteria and substances indigenous to the sample may interfere with the growth and recovery of coliforms. Therefore pre-enrichment in a non-selective medium facilitates detection of sub-lethally injured cells.

Fluid Lactose Medium is recommended for the detection of coliform organisms and the study of lactose fermentation by common bacteria. Fluid Lactose Medium is a pre-enrichment medium, recommended by APHA, for the detection of coliform bacteria in water, dairy products and food samples.^(1,2,3) When competing lactose utilizing bacteria are present in the test sample, a resulting drop in pH generates a bacteriostatic effect on the competing microflora. It is also used in the performance of microbial limit test for *Salmonella* species and *Escherichia coli*.

Principles of the Procedure

Fluid Lactose Medium contains beef extract and pancreatic digest of gelatin which provides carbon, nitrogen, amino acids and other essential nutrients for bacterial metabolism. Lactose is the sole source of fermentable carbohydrate.

Formula / Liter

Ingredients	Gms / Liter
Pancreatic digest of gelatin	5.00
Beef extract	3.00
Lactose	5.00
Final pH: 6.9 ± 0.2 at 25°C	
Formula may be adjusted and/or supplemented as required to meet performance specifications	

Precautions

1. For Laboratory Use only.
2. IRRITANT. Irritating to eyes, respiratory system, and skin.

Directions

1. Suspend 13 grams of the medium in one liter of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Mix well and distribute into tubes with inverted Durhams tubes.
4. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
5. The concentration of medium is adjusted in accordance with sample.





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Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Light amber coloured, clear solution without any precipitate
Reaction of 1.3% Solution	pH : 6.9 ± 0.2 at 25°C
Gel Strength	Not Applicable

Expected Cultural Response : Cultural characteristics observed after an incubation at 35 - 37°C for 18 - 48 hours.

Sr. No.	Organisms	Results to be achieved		
		Inoculum (CFU)	Growth	Gas
1.	<i>Enterobacter aerogenes</i> ATCC 13048	50-100	good-luxuriant	positive reaction
2.	<i>Escherichia coli</i> ATCC 25922	50-100	good-luxuriant	positive reaction
3.	<i>Enterococcus faecalis</i> ATCC 29212	50-100	good-luxuriant	negative reaction
4.	<i>Pseudomonas aeruginosa</i> ATCC 27853	50-100	good-luxuriant	negative reaction

The organisms listed are the minimum that should be used for quality control testing.

Test Procedure

Refer appropriate references for specific test procedures.

Results

Refer appropriate references and test procedures for interpretation of results.

Storage

Store the sealed bottle containing the dehydrated medium at 10- 30°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

Limitations of the Procedure

1. Growth with gas formation is a presumptive test for coliforms. Whenever there is larger inoculum multiple strength lactose broth is used.
2. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
3. Consult appropriate texts for detailed information and recommended procedures.

Packaging

Product Name : Fluid Lactose Medium

Product Code : DM527U

Available Pack sizes : 100gm/500gm





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References

1. Greenberg A. E., Clesceri L. S. and Eaton A. D., (Eds.), 1998, Standard Methods for the Examination of Water and Waste Water, 20th Ed., APHA, N.Y.
2. Marshall R. T., (Ed.), 1992, Standard Methods for the Examination of Dairy Products, 16th Ed., APHA, N.Y.
3. Downes F. P. and Ito K. (Ed.). 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., American Public Health Association, Washington, D.C.

Further Information

For further information please contact your local MICROMASTER Representative.



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