



## PRODUCT SPECIFICATION SHEET

### Acid Broth (DM382)

#### Intended Use

Acid Broth (DM382) is recommended for isolation of bacteria from canned foods.

#### Product Summary and Explanation

Bacteria such as *Bacillus coagulans*, *Lactobacillus*, *Leuconostoc* and yeasts etc. are capable of causing spoilage in acid product concentrates such as fruit pastes, tomato paste. pH is the most important factor which not only determines the degree of thermal processing of canned foods but also an important parameter of this medium for isolating acid tolerant bacteria from canned foods.<sup>(1)</sup> Acid Broth is a very good medium for the recovery of minimal contamination of canned acid food and is formulated as per APHA<sup>(1)</sup> for the selective cultivation of acid tolerant microorganisms from canned foods. Some Pediococci and Streptococci, which are aciduric and responsible for canned food spoilage, can also be cultivated in the Acid Broth.

#### Principles of the Procedure

Acid Broth contains an invert sugar, which is obtained by the hydrolysis of sucrose and is a mixture of 50% glucose and 50% fructose. It helps to prevent loss of water from the medium and also because the acid tolerant bacteria utilize it. Peptic digest of animal tissue and yeast extract provide the carbonaceous and nitrogenous nutrients including amino acids and vitamins to the microorganisms.

#### Formula / Liter

Ingredients	Gms / Liter
Invert sugar	10.00
Peptic digest of animal tissue	10.00
Yeast extract	7.50
Final pH: 4.0 ± 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 27.5 grams of the medium in one liter of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Distribute into tubes or flasks. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

#### Quality Control Specifications

Dehydrated Appearance	Light yellow to beige homogeneous free flowing powder
Prepared Medium	Light amber coloured clear solution, without any precipitate
Reaction of 2.75% Solution	pH : 4.0 ± 0.2 at 25°C
Gel Strength	Not Applicable





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**Expected Cultural Response:** Cultural characteristics observed after an incubation at 30°C for upto 5 days.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Bacillus coagulans ATCC 8038</i>	50-100	good-luxuriant
2.	<i>Lactobacillus acidophilus ATCC 4356</i>	50-100	good-luxuriant
3.	<i>Leuconostoc mesenteroides ATCC 12291</i>	50-100	good-luxuriant

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

### Test Procedure

1. Aseptically inoculate approximately 100 grams of product to be tested into 300 ml of sterile medium in a 500 ml screw-cap flask.
2. The broth is intended primarily as a mass culture medium for detecting minimal contaminants in aseptically packed acid products.
3. Further, inoculate minimum of three flasks per sample.
4. Retain extra aseptic sample from each container and incubate it with the flasks.
5. For the microscopic comparisons, retain an additional sample at the refrigeration temperature. It can also be used if the test has to be repeated.
6. Examine the samples visually for fermentation or biological surface growth daily, which are incubated at 30°C for 5 days.
7. Incubate the extra-retained samples for 10 days.
8. Examine all the samples microscopically, at the end of incubation period for evidence of bacterial or yeast contamination.
9. Refer appropriate references for standard test procedures.

### Results

Refer appropriate references and 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. For identification, organisms must be in pure culture. Morphological, biochemical and/or serological tests should be performed for final identification.
2. Consult appropriate texts for detailed information and recommended procedures.





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### Packaging

Product Name : Acid Broth

Product Code : DM382

Available Pack sizes : 500gm

### References

1. National Canners Association. 1933. Bacterial standards for sugar.
2. Williams O.B., 1936, Food Res., 1:217.
3. Cameron E.J., 1936, J. Assoc. Official Agr. Chem., 19:433.
4. Association of Official Analytical Chemists, 1978, Bacteriological Analytical Manual, 5th Edition, AOAC, Washington, D.C.
5. American Public Health Association, 1972, Standard Methods for the Examination of Dairy Products, 13th Ed. APHA, Washington, D.C.
6. National Canners Association, 1968, Laboratory Manual for Food Caners and Processors, Vol. I.
7. American Public Health Association, 1976, Compendium of Methods for the Microbiological Examination of Foods, APHA, Washington, D.C.
8. National Canners Association, 1954, A Laboratory Manual for the Canning Industry, 1st Edition, National Canners Associations, Washington.
9. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4th Ed., APHA, Washington, D.C.

### Further Information

For further information please contact your local MICROMASTER Representative.

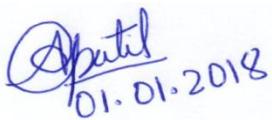
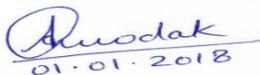


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