



## PRODUCT SPECIFICATION SHEET

### PE-2 Medium (DM529)

#### Intended Use

PE-2 Medium (DM529) is recommended for detection and cultivation of mesophilic anaerobic spore formers in specimens collected from food processing plants.

#### Product Summary and Explanation

The mesophilic spore-forming anaerobes belong to the genus *Clostridium* and are widely distributed in nature. These microorganisms tolerate high heat, grow in the absence of oxygen and grow over the range of temperatures used in canned and processed foods. They are of primary importance in spoilage of low-acid foods packed in hermetically sealed containers. PE-2 Medium is prepared as per the formulation described by Folinazzo and Troy<sup>(1)</sup> and recommended by APHA<sup>(2)</sup> for detection and cultivation of mesophilic anaerobic spore-formers in specimens from food processing plants. These organisms mainly include the genus *Clostridium*.

#### Principles of the Procedure

PE-2 Medium contains peptic digest of animal tissue provides amino acids and other complex nitrogenous and carbonaceous substances required for growth of *Clostridia*. Yeast extract supplies B complex vitamins. Bromocresol purple is a pH indicator. Addition of untreated Alaska seed peas creates anaerobic conditions in the medium.

#### Formula / Liter

Ingredients	Gms / Liter
Peptic digest of animal tissue	20.00
Yeast extract	3.00
Bromocresol purple	0.04
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 23.04 grams of the medium in one liter of distilled water.
2. Heat if necessary to dissolve the medium completely.
3. Dispense 18-20 ml aliquots into 18 x 150 mm screw capped test tubes.
4. Add 8-10 untreated Alaska seed peas and let the tubes stand for 1 hour to effect hydration.
5. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.

#### Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Purple coloured clear to slightly opalescent solution over Alaska seeds
Reaction of % solution	Not Applicable
Gel Strength	Not Applicable

**Expected Cultural Response:** Cultural characteristics observed after an incubation at 35-37°C for 18-24 hours.

Sr. No.	Organisms	Results to be achieved	
		Inoculum (CFU)	Growth
1.	<i>Clostridium botulinum</i> ATCC 25763	50-100	good-luxuriant
2.	<i>Clostridium sporogenes</i> ATCC 11437	50-100	good-luxuriant
3.	<i>Clostridium thermosaccharolyticum</i> ATCC 7956	50-100	good-luxuriant

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



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### Test Procedure

1. Culture the prepared samples of heated sugar, dehydrated vegetables and spices by taking 20 ml portions of these heated substances.
2. Divide equally among 6 tubes of freshly heated culture medium.
3. Incubate the cultures at 30-35°C for 72 hours or upto 7 days if desired as some spores germinate slowly. (2)
4. Refer to appropriate references for standard test procedures.

### Results

Refer to appropriate references and standard 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. 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.

### Packaging

**Product Name : PE-2 Medium**

**Product Code : DM529**

**Available Pack sizes : 500gm**

### References

1. Folinazzo J. F. and Troy V. S., 1954, Food Technol., 8:280.
2. Downes F. P. and Ito K., (Eds.), 2001, Compendium of Methods for the Microbiological Examination of Foods, 4<sup>th</sup> ed., APHA, Washington, D.C.

### Further Information

For further information please contact your local MICROMASTER Representative.



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