

PRODUCT SPECIFICATION SHEET

YSG Agar (DM1447)

Intended Use

YSG Agar (DM1447) is recommended for detection of *Alicyclobacillus* in fruit juices in accordance with official method of IFU.

Product Summary and Explanation

Alicyclobacillus have emerged as food spoilage organisms of major significance to the fruit juice industry. *Alicyclobacillus* species are gram positive aerobic thermophilic, and spore forming acidophilic bacteria. *Alicyclobacillus* are sometimes called Acidophilic Thermophilic Bacteria (ATB) as these spore forming organisms are able to survive the relatively mild pasteurization temperatures used for fruit juices and drinks and some are able to grow out and cause spoilage of the beverage. Even very low numbers of *Alicyclobacillus* are able to cause spoilage and produce objectionable flavours and odours from compounds such as guaiacol and the halogenated phenols, specially affecting the quality of fruit juice^(1,2) and in the beverages, damaging the brand. These bacteria are able to grow at pH values as low as 2.5 and also at elevated temperatures as high as 60°C. YSG broth is recommended for the enrichment of *Alicyclobacillus*. YSG Agar provides an acidified environment required for the growth of *Alicyclobacilli* species and is recommended for the count of *Alicyclobacillus* in fruit juices.⁽³⁾

Principles of the Procedure

YSG Agar contains yeast extract which provides mainly B complex vitamins and other growth factors. Glucose acts as a carbon and energy source. Soluble starch helps to neutralize the medium. The low pH-value of the media, in combination with the high incubation temperature inhibits the contaminating microorganisms.

Formula / Liter

Ingredients	Gms / Liter
Yeast extract	2.00
Glucose	1.00
Soluble starch	2.00
Agar	15.00
Final pH : 3.7 ± 0.1 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 20 grams of the medium in one liter of distilled water.
2. Heat to boiling to dissolve the medium completely.
3. Autoclave at 121°C, 15 psi pressure, for 15 minutes / validated cycle.
4. Cool to 45-50°C and adjust the pH to 3.7 ± 0.1 with 1N HCl.
5. Avoid heating or remelting the medium after the pH adjustment.

Quality Control Specifications

Dehydrated Appearance	Cream to yellow homogeneous free flowing powder
Prepared Medium	Pale yellow coloured Clear to slightly opalescent gel forms in Petri plates
Reaction of 2.0% Solution	pH : 3.7 ± 0.1 at 25°C
Gel Strength	Firm, comparable with 1.5% Agar gel

Expected Cultural Response: Cultural characteristics observed after an incubation at 45- 46°C for 3-5 days or 65-66°C for 2-3 days.



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Sr. No.	Organisms	Results to be achieved
		Growth
1.	<i>Alicyclobacillus acidocaldarius</i> ATCC 27009	good-luxuriant
2.	<i>Alicyclobacillus acidoterrestris</i> ATCC 49028	good-luxuriant
3.	<i>Alicyclobacillus acidocaldarius</i> ATCC 43030	good-luxuriant

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

Test Procedure

Refer to appropriate references for standard test procedures.

Results

Refer to 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. 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 : YSG Agar

Product Code : DM1447

Available Pack sizes : 500gm

References

1. Ceny G., Hennish W. and K Rocallia-Furchtsaftwerb durch Bacillen. Isobioerung and Charakteriseeung des Verdebserregens-Z hebers Utres Forsch 179: 224-227, 1984.
2. Baungart and Merve S., The Impact of *Alicyclobacillus acidoterrestris* on the Quality of Juices and Soft Drinks Fruit processing 7: 251-254 (2000).
3. Catharina e. Steyn, Michelle Cameron, R. Corli Witthuhn., International Journal of Food Microbiology, Vol.157, Issue1, pg. 1-11. Occurence of *Alicyclobacillus* in the fruit processing environment- A review.

Further Information

For further information please contact your local MICROMASTER Representative.



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