



## YSG Agar

M1753

Recommended for the detection of *Alicyclobacillus* in fruit juices in accordance with Official method of IFU.

### Composition\*\*

Ingredients	Gms / Litre
Yeast extract	2.000
Glucose	1.000
Soluble starch	2.000
Agar	15.000
Final pH ( at 25°C)	3.7±0.1

\*\*Formula adjusted, standardized to suit performance parameters

### Directions

Suspend 20 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C and adjust the pH to 3.7+0.1 with 1N HCl

### Principle And Interpretation

*Alicyclobacillus* species are gram positive aerobic thermophilic, and spore forming acidophilic bacteria. *Alicyclobacillus* are sometimes called Acidophilic Thermophilic Bacteria (ATB). 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 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*. Yeast extract in the medium supplies vitamin and growth factors. Glucose serves as an energy source. Soluble starch neutralizes the medium. The low pH of the medium imparts selectivity to the medium. This medium is recommended for the count of *Alicyclobacillus* in fruit juices (3)

### Quality Control

#### Appearance

Cream to yellow homogeneous free flowing powder

#### Gelling

Firm, comparable with 1.8% Agar gel

#### Colour and Clarity of prepared medium

Pale yellow coloured Clear to slightly opalescent gel forms in Petri plates.

#### Reaction

Reaction of 2.0% w/v aqueous solution at 25°C. pH : 3.7±0.1

#### pH

3.60-3.80

#### Cultural Response

M1753: Cultural characteristics observed after an incubation at 45- 46°C for 3-5 days or 65-66°C for 2-3 days.

Organism	Growth
<b>Cultural Response</b>	
<i>Alicyclobacillus acidocaldarius</i> ATCC 27009	luxuriant
<i>Alicyclobacillus acidoterrestris</i> ATCC 49028	luxuriant
<i>Alicyclobacillus acidocaldarius</i> ATCC 43030	luxuriant

Please refer disclaimer Overleaf.

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## Storage and Shelf Life

Store below 30°C in tightly closed container and the prepared medium at 2-8°C. Use before expiry date on the label.

## Reference

- 1.Ceny G., Hennlich W. and K Rocallia-Furchtsaftwerb durch Baciilen. Isobioerung and Charakteriseeung des Verdebserregens-Z hebers Utres Forsch 179: 224-227, 1984.
- 2.Baugart and Merve S., The Impact of Alicyclobacillus acidoterstris on the Quality of Juices and Soft Drinks Fruit processing 7: 251-254 (2000).
- 3.Cagnasso Stefano Rapid Screening of Alicyclobacillus acidoterrestris Spoilage of Fruit Juices by Electronic Nose: A Confirmation Study Journal of Sensors Volume 2010 (2010).

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