K Agar

Intended Use
K Agar is recommended for isolation and cultivation of *Alicyclobacillus* in fruit juices in accordance with Official Method of IFU.

Summary
Alicyclobacilli are aerobic thermophilic non-pathogenic, spore forming bacteria that can survive the relatively mild pasteurization temperatures used for fruit juices and concentrates. Even very low numbers of *Alicyclobacillus* cause spoilage and off flavors 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 above 40ºC.Their spores survive for long period in fruit concentrates and similar environments. *A. acidoterrestris* is the most commonly occurring species that produce taints in juice and similar products, however other species may also produce taints.
Acidified environment is required to detect and isolate *A. acidoterrestris*, therefore, K-Agar is recommended for detection of taint producing *Alicyclobacillus acidoterrestris* as per IFU (standard IFU method No.12).

Principle
Peptone and yeast extract serve as a source of nitrogen, amino acids, vitamins, and other essential growth requirements. Glucose serves as a carbon source. Tween 80 serves as an additional source of growth factor and fatty acid. The low acidic pH (3.7) of medium obtained by addition of L-malic acid is inhibitory to several bacterial species.

Formula*

Ingredients	**g/L**
Yeast Extract	2.5
Peptone	5.0
Glucose	1.0
Tween 80	1.0
Agar	15.0
pH adjusted with 25% L-malic acid to	3.7 ± 0.1

*Adjusted to suit performance parameters

Storage and Stability
Store dehydrated medium below 30°C in tightly closed container and the prepared medium at 2ºC-8°C. Avoid freezing and overheating. Use before expiry date on the label. Once opened keep powdered medium closed to avoid hydration.

Type of Specimen
Food samples

Specimen Collection and Handling
Ensure that all samples are properly labelled.
Follow appropriate techniques for handling samples as per established guidelines.
Some samples may require special handling, such as immediate refrigeration or protection from light, follow the standard procedure.
The samples must be stored and tested within the permissible time duration.
After use, contaminated materials must be sterilized by autoclaving before discarding.

Directions
1. Suspend 24.50 g of the powder in 1000 mL distilled water.
2. Mix thoroughly.
3. Boil with frequent agitation and boil for one minute to dissolve the powder completely.
4. Sterilize by autoclaving at 121°C (15 psi) for 15 minutes as per validated cycle.

Quality Control

Dehydrated Appearance: Cream to yellow homogeneous free flowing powder.
Prepared Appearance: Pale yellow coloured, clear to slightly opalescent gel forms in petriplates.
Cultural Response: Cultural characteristics observed after an incubation at 45°C-46°C for 2 -5 days.

Organism (ATCC)	Growth
Alicyclobacillus acidocaldarius (27009)	Good
Alicyclobacillus acidoterrestris (49028)	Good
Alicyclobacillus acidocaldarius (43030)	Good
Escherichia coli (25922)	Inhibited
Staphylococcus aureus (25923)	Inhibited

Performance and Evaluation

Performance of the product is dependent on following parameters as per product label claim:

1. Directions
2. Storage
3. Expiry

Warranty

This product is designed to perform as described on the label and package insert. The manufacturer disclaims any implied warranty of use and sale for any other purpose.

Reference

1. IFU (2004). Standard IFU method No.12- Microbiological detection of Alicyclobacillus in fruit juices. International Federation of fruit juice producer, Paris
2. Matsubara et al. (2002). Alicyclobacillus acidiphilus sp. nov., a novel thermo-acidophilic–alicyclic fatty acid-containing bacterium isolated from acidic beverages. Int. J. Syst. Environment. Microbiol. 52, 1681-1685.
3. Data on file: Microxpress®, A Division of Tulip Diagnostics (P) Ltd.

Product Presentation:

Cat No.	Product description	Pack Size
201110010500	Dehydrated Culture media	500 g