



# User manual

**BAT-Broth (Product No. 2.04717.782)**

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## 1. Information

### **Enrichment medium for the detection of *Alicyclobacillus* spp. in the beverage and fruit compound industry.**

**BAT-Broth (pH 4.0 ± 0.2)** is an ready-to-use selective liquid medium for fast trace detection. In combination with the BAT-Agar and Guaiacol Detection Kit, it is a fast, reliable, sensitive and cost-efficient method for analysis of *Alicyclobacillus* spp. even in complex products and is compliant to the IFU Method "Method on Detection of taint producing *Alicyclobacillus* in Fruit Juices" (IFU Method No.12.)

Representatives of the genus of *Alicyclobacillus* spp. are large, immobile, spore-forming and thermophilic bacteria, which may spoil beverage and fruit juices by formation of an Off-flavour, which are repulsive changes in taste and odor. Its spores can survive normal pasteurisation treatments and may be activated and grow in favourable conditions after a few weeks. The product itself remains optically proper without gas formation or typical colour changes. Even small numbers of bacteria may lead to the spoilage of the product. Therefore in internal specifications of the beverage industry a zero tolerance is often required.

Use the BAT-Broth for sample enrichment (especially of cloudy sample and beverage basic ingredients).

The performance test of this culture medium is compliant with the current version of the EN ISO 11133.

## 2. Handling

### **Required Material**

Water bath (temp 95°C/203°F)  
Microbiological workbench  
Sterile Flask (e.g. Duran bottle)  
Incubator  
Light microscope  
BAT-Agar (Product No. 2.04719.782)  
Plate Count Agar, PCA (Product No. 8.76631.782)  
Inoculation loop or Drigalski spatula

### **Application**

Handle the samples under sterile conditions to avoid secondary contamination.

*For cold filled ready to use drinks and compounds:*

Mix at least 50 g of ready-to-use drink in a ratio of 1:2 or 10 g of compound in a ratio of 1:10 with BAT-Broth in a sterile flask.

For inactivation of vegetative cells heat the mixed samples for 10 min. at 80°C/176°F. Cool the to 45°C/113°F samples.



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*For hot filled ready to use drinks:*

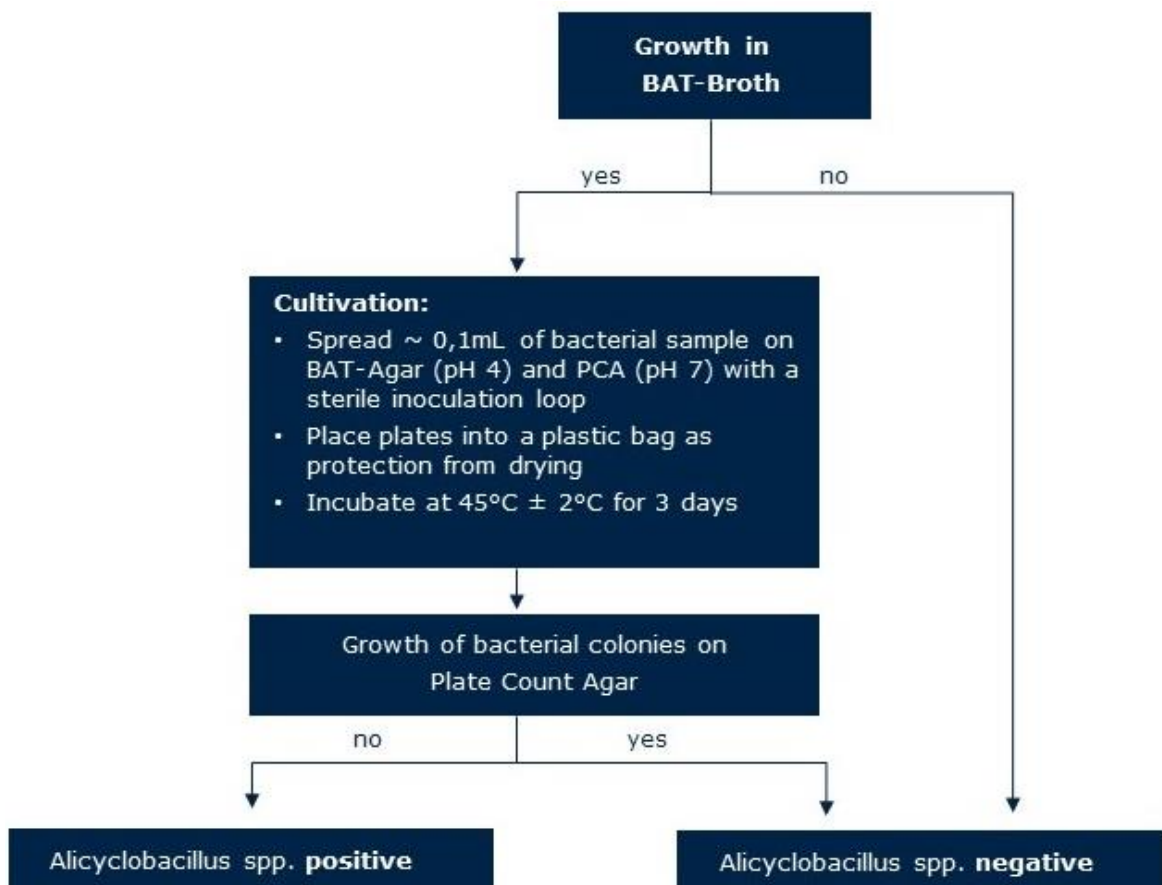
Hot filled ready-to-use drinks do not need enrichment in BAT-Broth. Proceed as described in BAT-Agar user manual.

## Incubation

Incubate your samples 3 days at a temperature of 43-47°C/109-117°F in aerobic conditions.

## Evaluation

Evaluate the samples microscopically. If there is a visible bacteria growth continue with BAT-Agar specifications (Fig. 1).



**Fig. 1 Evaluation scheme for detection of *Alicyclobacillus* spp. in your sample**



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## 3. Storage and Packaging Information

### Packaging and Content

unit Cardboard Box (9x250 mL in glass bottles)  
 unit size (Box) approx. 22 cm x 22 cm x 18 cm / 8.7 in x 8.7 in x 7.1 in  
 unit gross weight (Box) approx. 4.1 kg/ 9 lbs.

### Storage

Store at 4-8°C/40-46°F according to product specification.  
 Store under dry and dark conditions. Do not freeze product.

### Waste Disposal

No dangerous good.  
 No hazardous material.  
 Please consider your local waste regulations.  
 Not inoculated broth can be disposed of with normal laboratory waste.  
 Inoculated and incubated samples are to be sterilized before disposal at a temperature of 121°C/250°F for 20 min.

### Warnings

Do not cook or freeze the product.

## 4. Related Products

Investigation material	Relevant target microorganisms	Product	Format	Description	Packaging	pH (±0,2)	Incubation T [°C]	Item no.
Beverage containing juice pH < 4.5 Fruit juices Fruit juice concentrates Compounds Sugar	<i>Alicyclobacillus</i> spp.	BAT-A	Agar	Selective agar for isolation and microorganism count determination Application: Basic culture medium for membrane filtration, pour plate and spread plate method	9 x 250 mL (glass bottle)	4.0	43-47	2.04719.782
		BAT-B	Broth	Selective liquid medium for fast trace detection Application: Sample enrichment (especially of cloudy samples and beverage raw materials)	9 x 250 mL (glass bottle)	4.0	43-47	2.04717.782
		Guaiacol Detection Kit	Detection kit	Enzymatic test kit for detection of off-flavour forming <i>Alicyclobacillus</i> spp.	Incl.40 tubes (box)		43-47	2.04737.991