## Broth for Beer spoiling bacteria (BfB) with Indicator

Version: 07/2022

M&S item number: 4008 (25 x 20 ml)
Profile: Glass tubes
Color: Reddish

Storage: Dark and dry at 4 - 12 °C Shelf life: 8 months after production

### **Description and application range**

BfB-Broth with indicator used for enrichment, cultivation and detection of beer-spoiling bacteria and Non-Saccharomyces yeasts for all kinds of samples during brewing process and for quality control of finished products. The broth is also convenient for production hygiene to detect Lactobacilli and indicator bacteria.

The nutrient formulation of the broth especial promotes the growth of Leuconostoc,- Pectinatus,- Pediococcus-species and Lactobazilli. Non-Saccharomyces yeasts and some wild yeasts also grow in this broth. Culture strains of Saccharomyces yeasts are inhibited by Cycloheximide.

The added indicators make it easy to detect beer-spoiling bacteria through color changing of the broth from reddish to yellow. Non-Saccharomyces yeasts appear partly with explicit turbidity, intense foam formation while slewing and color changing from reddish to yellowish-brownish. Indicator bacteria appear with explicit turbidity and color changing from reddish to yellow at acid formation or from reddish to cherry-red/violet when growth is without forming acid. The medium is manufactured and quality tested in compliance with DIN EN ISO 11133:2014 + Amd 2:2020 standard.

Final pH: 6.0 ± 0.2 at 25 °C

#### Microbiological quality control

#### **Bacterial contamination**

Incubation: aerobically at room temperature for 7 days, specification: no growth

#### **Productivity** qualitative analysis

Incubation: 1-7 days at 30 ± 1 °C, aerobically / microaerophilic

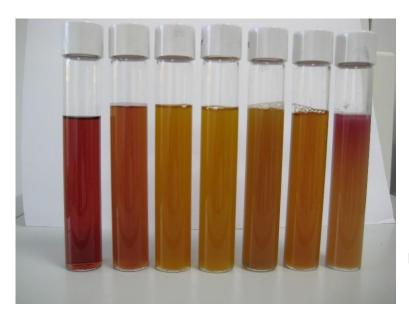
Microorganism	Test strain	Specification	Appearance
Lactobacillus sakei	WDCM 00015	Turbidity + color change	Turbidity and color change in 48h
Lactobacillus lactis	WDCM 00016	Turbidity + color change	Turbidity and color change in 24h
L. brevis	Brewery strain	Turbidity + color change	Turbidity and color change in 24h
L. lindneri	Brewery strain	Turbidity + color change	Turbidity and color change in 72h
Pediococcus damnosus	DSM 20331	Turbidity + color change	Turbidity and color change in 72h
Pediococcus pentosaceus	DSM 20336	Turbidity + color change	Turbidity and color change in 48h



# Dr. Möller & Schmelz GmbH

## **Corporation for Applied Microbiology**

Leuconostoc pseudomesenteroides	DSM 20193	Turbitity + color change	Turbidity and color change in 24h
Pectinatus spp.	Wild strain, isolated from spoiled beer	Turbidity + color change	Turbidity, flocculation, gas forming, color change in 48h
Enterobacter cloacae	WDCM 00083	Turbidity + color change	Turbidity, intense CO <sub>2</sub> – forming, color change in 48 – 72h with cherry-red zone on top
Pseudomonas aeruginosa	WDCM 00024	Turbidity + color change	Turbidity, flocculation, flower formation, color change to violet in 72h
Schizosaccharomyces pombe	DSM 70576	Turbidity + color change	Turbidity, color change in 6 days, foaming
Wild yeast	Wild strain, isolated from young wine	Turbidity + color change	Turbidity, color change in 72h, exuberant
Saccharomyces cerevisiae	WDCM 00058	Full inhibition	Fully inhibited after 7 days



Incubated 1 – 6 days at 30 °C

1 2 3 4 5 6 7

- 1. Control BfB-Broth not inoculated
- 2. BfB + 1ml Pils beer, inoculated with Schizosaccharomyces pombe DSM 70576
- 3. BfB + 1ml Pils beer, inoculated with *Pediococcus damnosus* WDCM 00022
- 4. BfB + 1ml Pils beer, inoculated with Leuconostoc pseudomesenteroides DSM 20193
- 5. BfB + 1ml Pils beer, inoculated with *Pectinatus spp*.
- 6. BfB + 1ml Pils beer, inoculated with Escherichia coli WDCM 00179
- 7. BfB + 1ml Pils beer, inoculated with Enterobacter cloacae WDCM 00083