



## 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
<i>Lactobacillus sakei</i>	WDCM 00015	Turbidity + color change	Turbidity and color change in 48h
<i>Lactobacillus lactis</i>	WDCM 00016	Turbidity + color change	Turbidity and color change in 24h
<i>L. brevis</i>	Brewery strain	Turbidity + color change	Turbidity and color change in 24h
<i>L. lindneri</i>	Brewery strain	Turbidity + color change	Turbidity and color change in 72h
<i>Pediococcus damnosus</i>	DSM 20331	Turbidity + color change	Turbidity and color change in 72h
<i>Pediococcus pentosaceus</i>	DSM 20336	Turbidity + color change	Turbidity and color change in 48h

<i>Leuconostoc pseudomesenteroides</i>	DSM 20193	Turbidity + color change	Turbidity and color change in 24h
<i>Pectinatus spp.</i>	Wild strain, isolated from spoiled beer	Turbidity + color change	Turbidity, flocculation, gas forming, color change in 48h
<i>Enterobacter cloacae</i>	WDCM 00083	Turbidity + color change	Turbidity, intense CO <sub>2</sub> -forming, color change in 48 – 72h with cherry-red zone on top
<i>Pseudomonas aeruginosa</i>	WDCM 00024	Turbidity + color change	Turbidity, flocculation, flower formation, color change to violet in 72h
<i>Schizosaccharomyces pombe</i>	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
<i>Saccharomyces cerevisiae</i>	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