

## WORT BROTH BASE

### Dehydrated culture medium

#### 1 - INTENDED USE

For the cultivation of a wide variety of yeasts and filamentous fungi

#### 2 - COMPOSITION - TYPICAL FORMULA \*

(AFTER RECONSTITUTION WITH 1 L OF WATER)

Malt extract	15.0 g
Peptone	0.75 g
Maltose	12.75 g
Dextrin	2.75 g
Dipotassium phosphate	0.75 g
Ammonium chloride	1.0 g

\*The formula may be adjusted and/or supplemented to meet the required performances criteria.

#### 3 - PRINCIPLE OF THE METHOD AND EXPLANATION OF THE PROCEDURE

Wort Broth Base is equivalent to the medium described by Parfitt<sup>1</sup> and is suitable for the cultivation of fungi, especially yeasts, in butter, and syrups. Wort Broth is especially designed to propagate the multiplication of yeasts and often it is employed as an enrichment medium and for the production of yeasts suspensions.

The medium, which duplicates the composition of natural wort, contains peptone and malt extract which provide the growth factors for mycological growth. Maltose and dextrin are the fermentable carbohydrates and a source of carbon and energy. The medium acidity is favourable for yeast growth and inhibitory to most bacteria. For increasing the selective properties, the pH may be decreased to 3.5 by adding tartaric or lactic acid. Dipotassium phosphate buffers the medium, while glycerol, added to the medium base, reduces the water activity.

#### 4 - DIRECTIONS FOR MEDIUM PREPARATION

Suspend 33 g in 1000 mL of cold purified water and add 2.5 mL of glycerol (REF 421015); heat to boiling with frequent agitation, distribute and sterilise by autoclaving at 121°C for 15 minutes.

#### 5 - PHYSICAL CHARACTERISTICS

Dehydrated medium appearance	beige, fine, homogeneous, free-flowing powder
Solution and prepared plates appearance	dark yellow, limpid
Final pH at 20-25 °C	5.0 ± 0.2

#### 6 - MATERIALS PROVIDED - PACKAGING

Product	Type	REF	Pack
Wort Broth Base	Dehydrated medium	4022022	500 g (15.1 L)

#### 7 - MATERIALS REQUIRED BUT NOT PROVIDED

Autoclave, water-bath, sterile loops and pipettes, incubator and laboratory equipment as required, Erlenmeyer flasks, tubes, sterile Petri dishes, cycloheximide, Glycerol (REF 421015), ancillary culture media and reagents.

#### 8 - SPECIMENS

Butter and syrups. Refer to applicable International Standards and regulations for the collection of food samples. Operate in accordance with good laboratory practice for sample collection, storage and transport to the laboratory.

#### 9 - TEST PROCEDURE

- Inoculate the medium with pure strains of yeasts or with a suspension of the sample and its decimal dilutions.
- Incubate for 5 days at 25°C

#### 10 - READING AND INTERPRETATION

After incubation the growth is evidenced by turbidity in the broth.

#### 11 - USER QUALITY CONTROL

All manufactured lots of the product are released for sale after the Quality Control has been performed to check the compliance with the specifications. However, the end user can perform its own Quality Control in accordance with the local applicable regulations, in compliance with accreditation requirements and the experience of the Laboratory. Here below are listed some test strains useful for the quality control.

CONTROL STRAINS	INCUBATION T°/ T - ATM	EXPECTED RESULTS
<i>S. cerevisiae</i> ATCC 9763	25°/ 72 H-A	good growth
<i>S. aureus</i> ATCC 25923	25°/ 72 H-A	growth partially inhibited

A: aerobic incubation; ATCC is a trademark of American Type Culture Collection

#### 12 - PERFORMANCES CHARACTERISTICS

Prior to release for sale, a representative sample of all lots of dehydrated Wort Broth Base supplemented with glycerol is tested for productivity by comparing the results with a previously approved Reference Batch.

Productivity is tested by dilution to extinction method, by inoculating 1 mL of appropriate decimal dilutions of target organisms in test tubes, incubating at 25°C for 72 hours and recording the highest dilution showing growth in Reference Batch (GrRB) and in Test Batch (GrTB). Productivity is assessed with the following strains: *S. cerevisiae* ATCC 9763 and *C. albicans* ATCC 18804, *A. brasiliensis* ATCC 9642. The productivity index  $Gr_{RB}-Gr_{TB}$  for each test strain shall be  $\leq 1$ .





The selectivity is assessed by dilution to extinction method with the non-target strain *S. aureus* ATCC 25923, partially inhibited after incubation at 25°C for 72 hours.

### 13 - PRECAUTIONS AND WARNINGS

- This culture medium is for microbiological control and for professional use only; it is to be used by adequately trained and qualified laboratory personnel, observing approved biohazard precautions and aseptic techniques.
- Dehydrated media must be handled with suitable protection. Before use, consult the Safety Data Sheet.
- This culture medium contains raw materials of animal origin. The *ante* and *post mortem* controls of the animals and those during the production and distribution cycle of the raw materials, cannot completely guarantee that this product doesn't contain any transmissible pathogen. Therefore, it is recommended that the culture medium be treated as potentially infectious, and handled observing the usual specific precautions: do not ingest, inhale, or allow to come into contact with skin, eyes, mucous membranes. Download the TSE Statement from the website [www.biolifeitaliana.it](http://www.biolifeitaliana.it), describing the measures implemented by Biolife Italiana for the risk reduction linked to infectious animal diseases.
- Apply Good Manufacturing Practice in the production process of prepared media.
- All laboratory specimens should be considered infectious.
- The laboratory area must be controlled to avoid contaminants such as medium powder or microbial agents.
- Sterilize all biohazard waste before disposal. Dispose the unused medium and the sterilized medium inoculated with samples or microbial strains in accordance with current local legislation.
- Do not use the culture medium as active ingredient for pharmaceutical preparations or as production material intended for human and animal consumption
- The Certificates of Analysis and the Safety Data Sheet of the products are available on the website [www.biolifeitaliana.it](http://www.biolifeitaliana.it).
- The information provided in this document has been defined to the best of our knowledge and ability and represents a guideline for the proper use of the product but without obligation or liability. In all cases existing local laws, regulations and standard procedures must be observed for the examination of samples collected from human and animal organic districts, for environmental samples and for products intended for human or animal consumption. Our information does not relieve our customers from their responsibility for checking the suitability of our product for the intended purpose.

### 14 - STORAGE CONDITIONS AND SHELF LIFE











Upon receipt, store at +10°C /+30°C away from direct light in a dry place. If properly stored, it may be used up to the expiration date. Do not use beyond this date. Avoid opening the bottle in humid places. After use, the container must be tightly closed. Discard the product if the container and/or the cap are damaged, or if the container is not well closed, or in case of evident deterioration of the powder (colour changes, hardening, large lumps).

The user is responsible for the manufacturing and quality control processes of prepared media and the validation of their shelf life, according to the type (tubes/bottles) and the applied storage conditions (temperature and packaging).

### 15 – REFERENCES

1. Parfitt EH. J Dairy Sci. 1933; 16: 141-147.

### TABLE OF APPLICABLE SYMBOLS

 or  Catalogue number	 Batch code	 Manufacturer	 Store in a dry place	 Use by
 Temperature limitation	 Contents sufficient for <n> tests	 Consult Instructions for Use	 Keep away from direct light	

### REVISION HISTORY

Version	Description of changes	Date
Revision 2	Updated layout and content	2022/08

Note: minor typographical, grammatical, and formatting changes are not included in the revision history.

