

TECHNICAL DATA SHEET

MGYP Agar With Copper

Principle

MGYP agar with copper is used for testing the quality of beers in Brewing industries. MGYP agar with copper is composed of yeast extract, malt extract, malt extract, gelatin peptone, dextrose, cupric sulphate and agar. The media is formulated to enumerate the wild yeasts and bacterial contamination in the brewing industry. The wild yeast and bacterial contamination is easily differentiated on the basis of morphological features. Yeast extract and Malt extract provides necessary nutrients to support the growth of yeasts. Dextrose is the carbon source for the growth of yeasts. Gelatin peptone is source of nitrogen. Cupric sulphate is used to inhibit the growth of larger yeast. The acidic pH in the medium inhibits the growth of bacteria and favors the growth of yeasts.

Use: For isolation and cultivation of wild yeast in the brewing industry.

Contents*

| Ingredients | Gram/Litre |
|-----------------|------------|
| Yeast Extract | 3.00 |
| Malt Extract | 3.00 |
| Gelatin Peptone | 5.00 |
| Dextrose | 10.00 |
| Cupric Sulphate | 0.40 |
| Agar | 20.00 |
| pH at 25°C | 6.2 ±0.2 |

* Formula adjusted for optimum performance and parameters

Directions Dissolve 41.4 grams in 1000 ml distilled water. Boil to dissolve the medium completely. Sterilize by autoclaving at 15 lbs pressure (121 °C) for 15 min, cool it to 42-45 °C and distribute aseptically in petri plates and allow to solidify. Ensure complete solidification and inoculate test sample aseptically.

Specimens' types analyzed
Beers and brewing products.

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Precautions to be taken

These microbial media are intended for the in-vitro use only. All the handling, experiments, storage, and discarding should be performed with the help of skilled and knowledgeable technicians and as per the established guidelines. The material should be disposed only after proper sterilization by autoclaving. Please go through the MSDS of the media to avoid any accidents or in emergency.

Performance and Evaluation

The expected performance of the medium is liable to use as per the direction on the label when stored at optimum conditions and within expiry date.

Quality Control

| | |
|-----------------------------------|------------------------------------------------------------------|
| Appearance | Yellow to brown yellow colored, free-flowing, homogeneous powder |
| Reaction of 4.14% solution | 6.20 ±0.2 at 25 °C |
| pH | 6.00- 6.40 |
| Gelling | Firm comparable with 2.0% agar gel |
| Color and clarity of ready medium | Brownish orange colored opalescent to hazy gel with precipitate |
| Growth Promotion properties | Best at ≤ 100 CFU at 25-30°C, for 18-72 h |
| Indicative properties | Optimum at ≤ 100 CFU at 25-30°C, for 18-48 h |
| Negative control | Performed using sterile distilled water |

Different Microbial Response: Prepare media as per the label directions. Inoculate (Inoculum 50-100 CFU) and incubate at 25-30°C for Yeast and mold and 33-37°C for 18-24 hours for bacteria.

| Organism | ATCC | Growth | Recovery |
|---------------------------------|-------|-----------|----------|
| <i>Candida albicans</i> | 10231 | Luxuriant | ≥ 70% |
| <i>Aspergillus brasiliensis</i> | 16404 | Luxuriant | ≥ 70% |
| <i>Saccharomyces cerevisiae</i> | 9763 | Luxuriant | ≥ 70% |
| <i>Escherichia coli</i> | 8739 | Inhibited | -- |

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Storage and Shelf Life: The product is highly hygroscopic; keep the container tightly closed at all times and store it properly as per the conditions mentioned on the label. The declared expiry is valid only when stored as per the conditions mentioned on the label. Note: Sterilize media immediately after reconstitution.

Disposal: To avoid the contamination or propagation of any hazardous microbes the used, unusable or modified preparation of this product must be disposed after autoclaving after completion of task.

Reference

1. Atlas, R. M. (2005). Handbook of media for environmental microbiology. CRC press.
2. Salfinger Y., and Tortorello M.L., (2015), Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
3. American Society of Brewing Chemists. (1992) Report of subcommittee on Copper Media for Wild Yeast Detection. Journal 50:153.
4. Pelczar M.J.Jr., Reid R.D., Chan E. C.S, (1977), Microbiology, 4th Ed, Tata, McGraw Hill Publishing company limited, New Delhi.

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