TM 500 - YEAST NITROGEN BASE (W/O AMINO ACIDS AND AMMONIUM SULPHATE)

INTENDED USE

For classification of yeasts on the basis of their ability to assimilate nitrogen and carbon compounds.

PRODUCT SUMMARY AND EXPLANATION

Yeast Nitrogen Base without Amino Acids and Ammonium Sulphate is used for classifying yeasts based on carbohydrate and amino acids requirements. This medium lacks the amino acids, histidine, methionine and tryptophan and also ammonium sulphate. Yeast Nitrogen Base is prepared as per the formulations of Guenter, which in turn is modification of Wickerham's formulation. Wickerham used the following nitrogen sources - ammonium sulphate 1.0 gm/l, potassium nitrate 0.78 gm/l, urea 0.46 gm/l, asparagine 1.0 gm/l, peptone 1.32 gm/l. Yeasts grown on rich medium may carry a reserve of nitrogen in the form of proteins that may result in erroneous findings. To avoid this, 2 serial transfers in complete medium are recommended. After sufficient incubation, measure the growth turbid metrically at 660 nm using spectrophotometer and compare with control.

COMPOSITION

Ingredients	Gms / Ltr
Biotin	0.000002
Calcium pantothenate	0.0004
Folic acid	0.000002
Inositol	0.002
Niacin	0.0004
p-Amino benzoic acid (PABA)	0.0002
Pyridoxine hydrochloride	0.0004
Riboflavin (Vitamin B2)	0.0002
Thiamine hydrochloride	0.0004
Boric acid	0.0005
Copper sulphate	0.00004
Potassium iodide	0.0001
Ferric chloride	0.0002
Manganese sulphate	0.0004
Sodium molybdate	0.0002
Zinc sulphate	0.0004
Potassium dihydrogen phosphate	1.000
Magnesium sulphate	0.500
Sodium chloride	0.100
Calcium chloride	0.100

PRINCIPLE

Yeast Nitrogen Base without Amino Acids and Ammonium Sulphate contains essential nutrients and vitamins necessary for cultivation of yeasts, except amino acids and a source of nitrogen and carbohydrates.

INSTRUCTION FOR USE

For Carbon Assimilation tests, prepare the broth base in 10X concentration.

- Dissolve 1.7 grams in 100 ml purified/ distilled water.
- Add 5 gm ammonium sulphate, 10 mg L-histidine, 20 mg DL-methionine and 20 mg DL-tryptophan. Carbon compounds for assimilation test are added in 10X concentration singly or in combination as required.
  For Nitrogen Assimilation tests, prepare the medium in 10X concentration.
  Dissolve 1.7 grams in 100 ml distilled water. Add 1gram dextrose, 1 mg L-histidine, 2 mg DL-methionine and 2 mg DL-tryptophan. Add nitrogen compounds for assimilation test in 10X concentration singly or in combination as required. Wickerham employed the following nitrogen sources: ammonium sulphate1gm, potassium nitrate 0.78 gm, urea 0.46 gm, asparagine 1gm, peptone (gelatin) 1.32 gm.
- For A and B, filter sterilize the 10X strength solution. Refrigerate and use as needed. Prepare final medium by aseptically pipetting 0.5 ml of the 10X sterile medium into 4.5 ml sterile distilled water.
- Mix well.

QUALITY CONTROL SPECIFICATIONS

Appearance of Powder : White to cream homogeneous free flowing powder.

Appearance of prepared medium : Colourless (at 10X concentration colour of medium is pale yellow) clear solution without any precipitate.

pH (at 25°C) : 4.5±0.2

INTERPRETATION

Cultural characteristics observed after an incubation.

Microorganism	ATCC	Inoculum (CFU/ml)	Growth	Growth w/ additions	Incubation Temperature	Incubation Period
Kloeckera apiculata	9774	10-100	None-poor	Good	35-37°C	6-7 days
Saccharomyces cerevisiae	9763	10-100	None-poor	Good	35-37°C	6-7 days
Saccharomyces uvarum	28098	10-100	None-poor	Good	35-37°C	6-7 days

PACKAGING:

In pack size of 100 gm bottles.

STORAGE

Dehydrated powder, hygroscopic in nature, store in a dry place, in tightly-sealed containers between 2-8°C and protect from direct sunlight. Under optimal conditions, the medium has a shelf life of 4 years. When the container is opened for

the first time, note the time and date on the label space provided on the container. After the desired amount of medium has been taken out replace the cap tightly to protect from hydration.

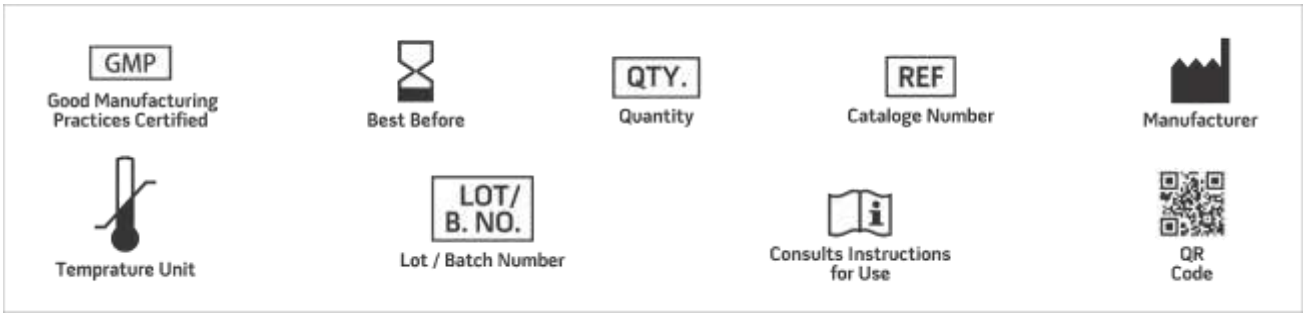
Product Deterioration: Do not use if they show evidence of microbial contamination, discoloration, drying or any other signs of deterioration.

DISPOSAL

After use, prepared plates, specimen/sample containers and other contaminated materials must be sterilized before discarding.

REFERENCES

1. American Public Health Association, Standard Methods for the Examination of Dairy Products, 1978, 14th Ed., Washington D.C.
2. Guenter, Personal communication.
3. Isenberg, H.D. Clinical Microbiology Procedures Handbook. 2nd Edition.
4. Jorgensen, J.H., Pfaller, M.A., Carroll, K.C., Funke, G., Landry, M.L., Richter, S.S and Warnock., D.W. (2015) Manual of Clinical Microbiology, 11th Edition. Vol. 1.
5. Salfinger Y., and Tortorello M.L. Fifth (Ed.), 2015, Compendium of Methods for the Microbiological Examination of Foods, 5th Ed., American Public Health Association, Washington, D.C.
6. Wehr H. M. and Frank J. H., 2004, Standard Methods for the Microbiological Examination of Dairy Products, 17th Ed., APHA Inc., Washington, D.C.
7. Wickerham L. J., 1951, U.S. Dept. Agric. Tech. Bull No. 1029.



NOTE: Please consult the Material Safety Data Sheet for information regarding hazards and safe handling Practices.

***For Lab Use Only**

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