



# PRODUCT SPECIFICATION SHEET

## Yeast Nitrogen Base w/o Amino Acids (DM719)

### Intended Use

Yeast Nitrogen Base w/o Amino Acids (DM719) is recommended for investigating carbon and nitrogen requirements of yeasts.

### Product Summary and Explanation

Yeasts are unicellular, eukaryotic, budding cells that are generally round-to-oval or elongate in shape. Principally, they multiply by the production of blastoconidia (buds).<sup>(1)</sup> Yeast colonies are moist and creamy or glabrous to embranous in texture.<sup>(1)</sup> Yeasts are considered opportunistic pathogens.<sup>(1)</sup>

Yeast Nitrogen Base without Amino Acids is formulated as per Wickerham<sup>(2, 3)</sup> and is used for investigating amino acid and carbohydrate requirement of yeasts. The composition of the medium is same as Yeast Nitrogen Base (DM718) medium except the amino acids histidine, methionine and tryptophan. These media are included in many applications for the study of yeasts in molecular genetics.<sup>(4, 5)</sup>

### Principles of the Procedure

Yeast Nitrogen Base without Amino Acids contains all essential vitamins and inorganic salts necessary for the cultivation of yeasts except histidine, methionine, tryptophan and a source of carbohydrate.

### Formula / Liter

| Ingredients  | Gms / Liter |
|--|-------------|
| Ammonium sulphate  | 5.00        |
| Monopotassium phosphate  | 1.00        |
| Magnesium sulphate   | 0.50        |
| Sodium chloride  | 0.10        |
| Calcium chloride   | 0.10        |
| 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      |
| Biotin   | 0.000002    |
| Calcium pantothenate   | 0.0004      |
| Folic acid   | 0.000002    |
| Inositol   | 0.002       |
| Niacin   | 0.0004      |
| p-Amino benzoic acid (PABA)  | 0.0002      |
| Riboflavin (Vitamin B2)  | 0.0002      |
| Pyridoxine hydrochloride   | 0.0004      |
| Thiamine hydrochloride   | 0.0004      |
| Final pH: 5.4 ± 0.2 at 25°C  |             |
| Formula may be adjusted and/or supplemented as required to meet performance specifications |             |

### Precautions

1. For Laboratory Use only.





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2. IRRITANT. Irritating to eyes, respiratory system, and skin.

### Directions

1. For best results the medium is prepared in 10X strength.
2. Suspend 6.7 grams in 100 ml distilled water.
3. Add 5 grams dextrose or an equivalent amount of other carbohydrate and other chemicals like amino acids that modify growth of yeasts as desired.
4. Ensure complete solution and sterilize by filtration.
5. For use, dilute 0.5 ml 10X medium to make 5 ml with sterile distilled water. Mix well.

### Quality Control Specifications

|                            |  |
|----------------------------|--|
| Dehydrated Appearance      | White to cream homogeneous free flowing powder                             |
| Prepared Medium            | Colourless to light yellow coloured clear solution without any precipitate |
| Reaction of 0.67% Solution | pH : 5.4 ± 0.2 at 25°C   |
| Gel Strength               | Not Applicable   |

**Expected Cultural Response:** Cultural characteristics observed after an incubation at 25-30°C for 6-7 days (longer if necessary for upto 24 days).

| Sr. No. | Organisms                              | Results to be achieved |                      |
|---------|--|------------------------|----------------------|
|         |  | Growth (Plain)         | Growth with Dextrose |
| 1.      | <i>Kloeckera apiculata ATCC 9774</i>   | none-poor              | good                 |
| 2.      | <i>Saccharomyces uvarum ATCC 28098</i> | none-poor              | good                 |

The organisms listed are the minimum that should be used for quality control testing.

### Test Procedure

1. Inoculate the prepared tubed medium very lightly with the test organism.
2. Incubate at 25°C for 6-7 days.
3. After incubation (6-7 days and, if necessary, 20-24 days), shake the tubes to suspend growth.
4. Read for growth.

### Results

1. Draw lines with India ink on a paper and hold the paper against the Yeast Nitrogen Base tubes.
2. If lines are not seen or appear diffused through the culture, the test is considered positive and if lines are distinguishable, test is negative.

### Storage

Store the sealed bottle containing the dehydrated medium below 8°C. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light.

### Expiration

Refer to the expiration date stamped on the container. The dehydrated medium should be discarded if not free flowing, or if the appearance has changed from the original color. Expiry applies to medium in its intact container when stored as directed.

### Limitations of the Procedure

1. Yeasts grown on a rich medium may carry a reserve of nitrogen in the form of protein. Possible errors due to this reserve are eliminated by making two serial transfers in the complete medium.





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- When the first transfer is seven days old, the culture is shaken and one loopful is transferred to a second tube of the complete medium containing the same source of nitrogen. If a positive test is obtained when the second culture is seven days old, the organism being tested assimilates this particular nitrogen source.
- Consult appropriate texts for detailed information and recommended procedures.

### Packaging

Product Name : Yeast Nitrogen Base w/o Amino Acids

Product Code : DM719

Available Pack sizes : 100gm

### References

- Warren and Hazen. 1995. *In* Murray, Baron, Pfaller, Tenover and Tenover (ed.). Manual of clinical microbiology, 6th ed. American Society for Microbiology, Washington, D.C.
- Wickerham L. J., 1951, U.S. Dept. Agric. Tech. Bull. No. 1029.
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- Sherman, Fink and Hicks. 1986. Methods in yeast genetics. Cold Spring Harbor Laboratory Press, Cold Spring Harbor, N.Y.
- Brownstein, Silverman, Little, Burke, Korsmeyer, Schlessinger and Olson. 1989. Science. 244:1348.

### Further Information




For further information please contact your local MICROMASTER Representative.



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