

## Dichloran Glycerol (DG-18) Agar Base (NCM0081)

### Intended Use

Dichloran Glycerol (DG-18) Agar Base is used for the selective isolation and enumeration of yeasts and molds from foods in a laboratory setting. Dichloran Glycerol (DG-18) Agar Base is not intended for use in the diagnosis of disease or other conditions in humans.

### Description

Dichloran Glycerol (DG-18) Agar Base is used for the enumeration of viable osmophilic yeasts and xerophilic molds in food or animal feed products with a water activity of less than or equal to 0.95. This includes such foods as dry fruits, jams, cakes, dried meat, salted fish, grains, cereals, flours, nuts, spices, condiments and some animal feeds. This medium is not suitable for the examination of dehydrated products with a water activity of greater than 0.95, Dichloran Rose Bengal Chloramphenicol Agar (NCM0082 or NCM0029) should be used.

The reduction in water activity in this medium is achieved by the addition of glycerol at approximately 18% and this is very important as many yeast and molds require a low water activity to enhance growth and colony development. The medium also contains the antifungal agent dichloran, which restricts the spreading of mucoraceous fungi and restricts the colony size of other genera making colony counting an easier task.

Additional selectivity against bacterial growth is achieved by the incorporation of the heat-stable antibiotic Chloramphenicol. Glucose is incorporated as the fermentable carbohydrate source, with casein enzymatic digest providing the essential vitamins, minerals, amino acids, nitrogen and carbon.

### Typical Formulation

Casein Enzymatic Digest	5.0 g/L
D-Glucose	10.0 g/L
Potassium Dihydrogen Phosphate	1.0 g/L
Magnesium Sulfate	0.5 g/L
Dichloran	0.002 g/L
Chloramphenicol	0.1 g/L
Agar	15.0 g/L

pH: 5.6 ± 0.2 at 25°C

Formula may be adjusted and/or supplemented as required to meet performance specifications.

### Precaution

Refer to SDS

### Preparation

1. Suspend 31.6 g of medium and 220 grams of glycerol in one liter of purified water.
2. Heat with frequent agitation and boil for one minute to completely dissolve the medium.
3. Autoclave at 121°C for 15 minutes.
4. DO NOT OVERHEAT
5. Cool to 45-50°C.

### Test Procedure

Developed with reference to ISO 21527-2:2008 and is tested to the performance requirements of this standard.

# Technical Specification Sheet



## Quality Control Specifications

**Dehydrated Appearance:** Powder is homogeneous, free flowing, and beige.

**Prepared Appearance:** Prepared medium is clear to slightly hazy and beige.

**Expected Cultural Response:** Cultural response on Dichloran Glycerol (DG-18) Agar Base at 25 ± 1°C for up to 5 days of incubation.

<u>MICROORGANISM</u>	<u>ATCC</u>	<u>APPROX. INOCULUM (CFU)</u>	<u>EXPECTED RESULTS</u>
<i>Aspergillus restrictus</i>	42693	Point Inoculation	Growth
<i>Bacillus subtilis subsp. spizizenii</i>	6633	>10 <sup>4</sup>	Inhibited
<i>Candida albicans</i>	10231	50-200	>50% Recovery
<i>Escherichia coli</i>	25922	>10 <sup>4</sup>	Inhibited
<i>Penicillium roquefortii</i>	10110	Point Inoculation	Growth
<i>Saccharomyces cerevisiae</i>	9763	50-200	>50% Recovery
<i>Wallemia sebi</i>	42694	Point Inoculation	Growth
<i>Eurotium rubrum</i>	42690	Point Inoculation	Growth

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

## Results

Observe and record number of yeasts and/or molds present. Report as appropriate per/sample being tested.

## Expiration

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

## Limitations of the Procedure

1. Complete classification of yeast and molds is dependent upon microscopic observations of direct and/or slide culture preparations, along with biochemical and serological tests.
2. Due to nutritional variation, some strains may be encountered that grow poorly or fail to grow on this medium.

## Storage

Store dehydrated culture media at 2-30°C away from direct sunlight. Once opened and recapped, place container in a low humidity environment at the same storage temperature. Protect from moisture and light by keeping container tightly closed.

## References

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# Technical Specification Sheet



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5. ISO 21257-2:2008 Microbiology of food and animal feeding stuffs – Horizontal method for the enumeration of yeasts and molds. Part 2: Colony count technique in products with water activity less than or equal to 0,95.
6. Deak, T., Chen, J., Golden D.A., Tapia, M.S., Tornai-Lehoczki, J., Viljoen, B.C., Wyder, M.T. Beuchat, L.R. (2001). Comparison of dichloran 18% glycerol (DG18) agar with general purpose mycological media for enumerating food spoilage yeasts. *Int. J. Food Microbiol.* **67**, 49-53.
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