

# Dichloran Glycerol (DG18) Agar

Selective agar with low water activity (*aw*) for the enumeration and isolation of xerophilic moulds in dried and semi-dried foods as well as a general purpose medium for counting yeast and moulds in foodstuffs.

Dichloran glycerol (DG 18) agar was formulated by HOCKING and PITT (1980) and is recommended for the enumeration of xerophilic moulds in dried and semi-dried foods, such as dried fruits, meat and fish products, spices, confectionery, cereals, nuts. BECKERS et al. (1982) demonstrated the use of DG 18 as a general purpose medium for counting yeasts and moulds in foodstuffs.

## Mode of Action

By reducing the water activity from approx. 0.99 to 0.95 with 18 % (w/w) glycerol and addition of chloramphenicol growth of bacteria is prevented. The inclusion of dichloran serves to inhibit the rapid spreading of mucoraceous fungi and restricts colony sizes of other genera, easing the colony count.

## Typical Composition (g/litre)

Peptone 5.0; glucose 10.0; potassium dihydrogen phosphate 1.0; dichloran 0.002; magnesium sulfate 0.5; chloramphenicol 0.1; agar-agar 15.0.

pH: 5.6 ± 0.2 at 25 °C.

The prepared plates are clear and yellowish.

## Preparation

Suspend 31.6 g in 1 litre of demin water and heat to boiling until completely dissolved. Add 175 ml of glycerol p.a. (Merck Cat. No. 1.04092.) to the medium, mix and autoclave at 121 °C for 15min. Cool to approx. 50 °C, mix well and pour plates.

## Quality control

Test strains	Growth
<i>Saccharomyces cerevisiae</i> ATCC 9763	good / very good
<i>Rhodotorula mucilaginosa</i> DSMZ 70403	good / very good, colony colour: orange
<i>Mucor racemosus</i> ATCC 42647	fair / good
<i>Bacillus subtilis</i> ATCC 6633	none
<i>Escherichia coli</i> ATCC 25922	none

The appearance of the prepared medium is amber and slightly opalescent. When stored at +2 to +8 °C in the dark, the shelf life of plates is approximately 1 week and in bottles approx. 2months.

## Experimental Procedure

Directly inoculate agar plates using surface spreading technique with serial dilutions.

Incubate at 22-25 °C and look for growth after 4, 5 and 6 days.

Interpretation of Results

Count the number of xerophilic colonies per gram of food.

## Literature

HOCKING, A.D., and PITT, J.I. (1980) Dichloran-glycerol medium for enumeration of xerophilic fungi from low moisture foods. **Appl. Environm. Microbiol.** **39**, 488-492.

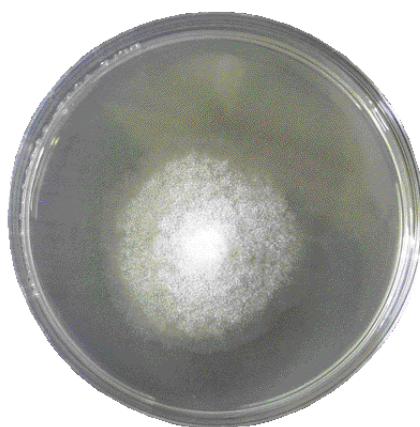
BECKERS, H.J., BOER, E., VAN EIKELBOOM, E., HARTOG, B.J., KUIK, D., MOL, N., NOOITGEDACHT, A.J., NORTHOLD, M.O., and SAMSON, R.A. (1982) Inter. Stand. Org. Document ISO/TC34/SC9/N151.

## Ordering Information

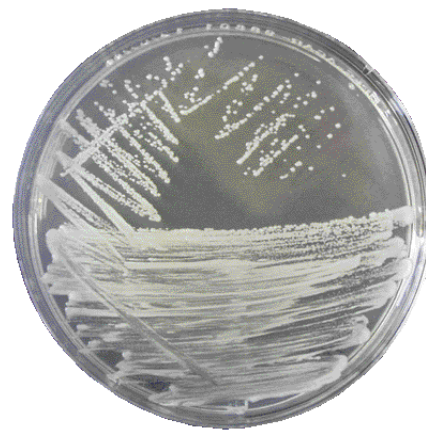
Product	Merck Cat. No.	Pack size
Dichloran Glycerol (DG18) Agar	1.00465.0500	500 g



*Rhodotorula mucilaginosa*



*Mucor racemosus*



*Saccharomyces cerevisiae*