

Dichloran Glycerol Medium Base, Granulated

GM1129

Dichloran Glycerol Medium Base, granulated is recommended for selective isolation of xerophilic moulds from food samples.

Composition**

Ingredients	Gms / Litre
Peptic digest of animal tissue	5.000
Dextrose	10.000
Monopotassium phosphate	1.000
Magnesium sulphate	0.500
Dichloran	0.002
Chloramphenicol	0.100
Agar	15.000
Final pH (at 25°C)	5.6±0.2

**Formula adjusted, standardized to suit performance parameters

Directions

Suspend 15.8 grams in 500 ml distilled water. Heat to boiling to dissolve the medium completely. Add 110 grams of glycerol (Analytical Reagent Grade). Sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes. Cool to 45-50°C. Mix well and pour into sterile Petri plates.

Principle And Interpretation

Dichloran Glycerol Medium was formulated by Hocking and Pitt (1) and is recommended for isolation and enumeration of xerophilic moulds from dried and semidried foods. The glycerol at 18% (w/w) lowers the water activity (aw) from 0.999 to 0.95 (2) without causing any problem. This restrictive characteristic makes the medium especially suitable for foods.

Peptic digest of animal tissue provides nitrogen, vitamins and minerals. Dextrose is a carbohydrate source. Phosphate buffers the medium. Magnesium sulfate provides divalent cations and sulfate. Dichloran is an antifungal agent, added to the medium to reduce colony diameters of spreading fungi.

Chloramphenicol is included to inhibit the growth of bacteria present in environmental and food samples. Inhibition of growth of bacteria and restriction of spreading of more-rapidly growing moulds aids in the isolation of slow-growing fungi by preventing their overgrowth by more-rapidly growing species.

Process 40 gm of food sample in a stomacher by adding 200 ml of 0.1% Peptone Water (M028). Shake periodically for 30 minutes with 0.1% Peptone Water for powdered products. Dilute the sample to 1:10 in 0.1% Peptone water and spread on plate. Count the number of Xerophilic colonies per gram of food. The medium can also be used as general medium for the isolation of yeasts and moulds from foodstuffs (2).

Quality Control

Appearance

Cream to yellow coloured granular medium

Gelling

Firm, comparable with 1.5% Agar gel

Colour and Clarity of prepared medium

Medium amber coloured, clear to slightly opalescent gel forms in Petri plates

Reaction

Reaction of 3.16% w/v aqueous solution 22 grams of glycerol at 25°C. pH : 5.6±0.2

pH

5.40-5.80

Cultural Response

Cultural characteristics observed with added 22 grams of glycerol after an incubation at 25°C for upto 6 days.

Organism	Inoculum (CFU)	Growth	Recovery
<i>Bacillus subtilis</i> ATCC 6633	$\geq 10^3$	inhibited	0%
<i>Candida albicans</i> ATCC 10231	50-100	good-luxuriant	$\geq 50\%$
<i>Escherichia coli</i> ATCC 25922	$\geq 10^3$	inhibited	0%
<i>Mucor racemosus</i> ATCC 42647	-	good-luxuriant	
<i>Saccharomyces cerevisiae</i> ATCC 9763	50-100	good-luxuriant	$\geq 50\%$

Storage and Shelf Life

Store between 15-25°C in tightly closed container and the prepared medium at 2-8°C . Use before expiry date on the label.

Reference

1. Hocking A.D. and Pitt J.I., 1980, J. Appl. Environ. Microbiol., 39:488.
2. Beckers H.J., et al, 1982, Intern. Stand. Org.Document ISO/TC34/SC9/N151

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