40608 Schwarz Differential Agar
(Schwarz Differential Medium; SDA; SDM)

Schwarz Differential Medium is used in the brewing industry for the differentiation of brewing yeasts from wild yeasts.

Composition:

Ingredients	Grams/Litre
Peptic digest of animal tissue	5.0
Yeast extract	3.0
Malt extract	3.0
Dextrose	10.0
Basic fuchsin	0.47
Sodium sulphite	2.92
Dextrin	0.11
Agar	20.0
Final pH (at 25°C) 6.9 ± 0.2	

Store prepared media below 8°C, protected from direct light. Store dehydrated powder, in a dry place, in tightly-sealed containers at 2-25°C.

Appearance:	Purple coloured, homogeneous, free flowing powder.
Gelling:	Firms
Color and Clarity:	Light read to pink coloured, clear gel form in petri plates.

Directions:
Suspend 44.50 grams in 1000 ml distilled water. Boil with constant stirring for 15 minutes. DO NOT AUTOCLAVE. Cool to 45°C and pour into sterile plates. Efficacy of the plates can be improved by incubating them to 30°C for 18 hours before use.
Caution: Basic fuchsin is a potential carcinogen and care should be taken to avoid inhalation of the powdered dye and contamination of the skin.

Principle and Interpretation:
Schwarz Differential Medium is recommended for use in the brewing industry for the differentiation of brewing yeasts from wild yeasts. Malt extract, peptic digest of animal tissue and yeast extract serve as sources of essential nutrients and amino acids to support the growth of yeasts. Dextrose and Dextrin are the carbohydrates and serves the organisms as energy source. Sodium sulphite and basic fuchsin inhibit the gram-positive microorganisms.
The prepared plates darken during incubation. Wild yeasts form pink colonies which may be smooth, mucoid or wrinkled. Brewing yeasts forms a thin haze of micro colonies which blend with the colour of the medium.

Cultural characteristics up to 5 days at 30°C (colour of the plates darkens during incubation).

Organisms (ATCC)	Growth	Color of Colony
Candida albicans (10231)	+++	white to light pink raised colonies
Candida krusei (24408)	+++	pink, rough, flat colonies
Saccharomyces cerevisiae (9763)	+++	pink coloies

References:

1. L. Jespersen, M. Jakobsen, Specific spoilage organisms in breweries and laboratory media for their detection, Int. J. of Food Microbiol., Vol. 33, 1, p 139-155 (1996)
2. A. van der Aa Kühle, L. Jespersen, Detection and identification of wild yeasts in lager breweries, Int. J. of Food Microbiol., Vol. 43, 3, p 205-213 (1998)
3. T. Deák, L.R. Beuchat, Handbook of food spoilage yeasts, 2nd Edition (2007)

Precautions and Disclaimer

This product is for R&D use only, not for drug, household, or other uses. Please consult the Material Safety Data Sheet for information regarding hazards and safe handling practices.