

**M9 Minimal Medium Salts (5X)****G013**

M9 Minimal Medium Salts (5X) is recommended for growing *Escherichia coli* for molecular biology purpose.

**Composition\*\* :**

<b>Ingredients</b>	<b>Grams/Litre</b>
Disodium hydrogen phosphate	33.90
Potassium dihydrogen phosphate	15.00
Sodium chloride	2.50
Ammonium chloride	5.00

\*\* Formula adjusted, standardized to suit performance parameters

**Directions :**

Suspend 56.4 grams in 1000 ml distilled water. Heat to boiling to dissolve the medium completely. Dispense as desired and sterilize by autoclaving at 15 lbs pressure (121°C) for 15 minutes.

**Principle and Interpretation :**

M9 Minimal Salts, 5x is used in preparing M9 Minimal medium used for the cultivation and maintenance of *E. coli* in molecular biology. M9 is a chemically defined minimal growth medium for *E. coli* cultures (1, 2). It can be supplemented with specific amino acids or other required nutrients for the selection of some specific auxotroph. Sometimes the incorporation of certain additives (e.g. thiamine or casamino acids) enhances the bacterial growth. In 1959, Jacob and Monod published an article where they discussed about minimal media of *E. coli* (3). The components of this media supply the required nutrients for proper growth. Ammonium chloride acts as the nitrogen source and Sodium chloride maintains the final osmolarity of the medium. M9 Minimal Salts Base, 5x, is a 5x concentrate and should be diluted to 1x concentration before usage. Glucose may be added as a carbon source. Some other nutritional elements (e.g. calcium and magnesium) can be added as supplement.

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1. Davis, L.G., M.D. Dibner and J.F. Battey, Basic methods in molecular biology, Elsevier, new York, (1986).
2. Sambrook, J., E. F. Fritsch, and T. Maniatis, 1989, Molecular cloning: a laboratory manual, 2<sup>nd</sup> edition ed., Cold Spring Harbour laboratory, Cold Spring Harbour, N.Y.
3. Pardee, A. B., F. Jacob, and J. Monod. 1959. The genetic control and cytoplasmic expression of "inducibility" in the synthesis of  $\beta$ -galactosidase in E. coli. J. Mol. Biol. 1:165-178.

**Quality Control :****Appearance of Powder :**

White to cream coloured, homogeneous, free flowing powder.

**Colour and Clarity :**

Colourless, clear solution without any precipitate.

**Cultural Response :**

Cultural characteristics observed after an incubation at 35-37°C for 18 - 48 hours.

**Organisms (ATCC)**

*Escherichia coli*

**Growth**

good-luxuriant

**Storage and Shelf-life :**

Store below 30°C and the prepared medium at 2 - 8°C. Use before expiry date on the label.