



**Cyrusbioscience**

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## M9 minimal Salts Base 5X

**Product No.:** 3019

### **Applications:**

M9 minimal Salts Base 5X is used in preparing M9 Minimal Medium which is used for cultivating recombinant strains of Escherichia coli.

### **Description:**

M9 minimal Salts Base 5X is a 5x concentrate that is diluted to a 1x concentration and supplemented with an appropriate carbon and energy source, such as dextrose, to provide a minimal, chemically defined medium. The medium will support the growth of “wild-type” strains of E. coli. M9 Minimal Salts is useful for maintaining positive selection pressure on plasmids coding for the ability to produce essential substances such as amino acids or vitamins.

Sodium phosphate( $\text{Na}_2\text{HPO}_4$ ) and potassium phosphate( $\text{KH}_2\text{PO}_4$ ) are present as buffering agents. Ammonium chloride( $\text{NH}_4\text{Cl}$ ) is a source of nitrogen for cellular systems. Sodium chloride( $\text{NaCl}$ ) provides essential ions. Glucose may be added as a source of carbohydrate. Supplementing the medium with magnesium and calcium increases the growth of recombinants.

### **Formula (per liter):**

$\text{Na}_2\text{HPO}_4$ : 33.9g

$\text{KH}_2\text{PO}_4$ : 15g

$\text{NaCl}$ : 2.5g

$\text{NH}_4\text{Cl}$ : 5g

pH at 25 °C :  $6.8 \pm 0.2$

**Storage:** Store at Room Temp.

## Appendix:

### M9 mineral medium recipe

Reagent	Amount to add (for 1L)
M9 minimal Salts Base Solution 5X	200mL
20% Glucose	20mL
1 M MgSO <sub>4</sub>	2mL
1 M CaCl <sub>2</sub>	0.1mL
H <sub>2</sub> O	780mL

### Stock Solution:

#### M9 minimal Salts Base Solution 5X (56.4g/L)

Dissolve 56.4g M9 minimal Salts Base 5X in water in 1 L water. Autoclave at 121°C for 15 minutes.

#### 20% Glucose (200g/L)

Dissolve 200g Glucose in water, add water to a final volume of 1 L. Sterilize the solution over a 0.22-μM filter. Store at 4°C.

#### 1 M MgSO<sub>4</sub> (24.65g/100ml)

Dissolve 24.65g MgSO<sub>4</sub> in water, add water to a final volume of 1 L. Autoclave at 121°C for 15 minutes, and store at room temperature. DO NOT autoclave with CaCl<sub>2</sub>, avoid calcium sulfate precipitation.

#### 1 M CaCl<sub>2</sub> (14.70g/100ml)

Dissolve 14.70g CaCl<sub>2</sub> in water, add water to a final volume of 1 L. Autoclave at 121°C for 15 minutes, and store at room temperature. DO NOT autoclave with MgSO<sub>4</sub>, avoid calcium sulfate precipitation.

**Note:** Another vitamins and trace elements is added for bacteria better growth, such as biotin(final concentration 1mg/L), thiamine(vitamin B1)(1 mg/L), trace element solution, etc.