**M9 Minimal Salts (2X)**

**Description**
M9 Minimal Salts (2X) solution is used in the preparation of M9 minimal media (a liquid growth media for bacterial culture). The composition of the M9 Minimal Salts include buffering agents, a nitrogen source and necessary ions critical to the completion of M9 minimal media. Complete M9 Minimal Media also requires a carbon source to support microbial growth. As a complete media, M9 minimal media is typically used to define the nutritional needs of auxotrophic bacteria such as mutant strains of *Escherichia coli* (*E. coli*). Auxotrophs, organisms having unique nutritional requirements due to mutation(s), will not be able to grow in M9 minimal media without additional supplements such as amino acids or other required nutrients.

**Product**

<table>
<thead>
<tr>
<th>Product</th>
<th>Catalog no.</th>
<th>Amount</th>
<th>Storage</th>
<th>Shelf life*</th>
</tr>
</thead>
<tbody>
<tr>
<td>M9 Minimal Salts (2X)</td>
<td>A13744-01</td>
<td>1000 mL</td>
<td>15°C to 30°C</td>
<td>12 months</td>
</tr>
</tbody>
</table>

*Shelf life duration is determined from Date of Manufacture.

**Use**
Consult appropriate references for recommended test procedures (see References).

**Expected results**
Growth should be evident by the appearance of turbidity.

**User quality control**
Prepare complete M9 minimal medium as described (see Prepare media). Inoculate and incubate cultures on a rotary shaker at 33°C to 37°C for 18–48 hours.

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<tr>
<th>Organism</th>
<th>Inoculum CFU</th>
<th>Recovery</th>
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<td><em>E. coli</em> (BL21 (DE3))</td>
<td>30–300</td>
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<td>LB Broth (1X), liquid</td>
<td>10855</td>
</tr>
<tr>
<td>Terrific Broth, liquid</td>
<td>A13743</td>
</tr>
</tbody>
</table>

**Prepare media**
Use the following instructions for preparing complete M9 minimal medium as a starting point. Additional supplementation may be required depending on the nutritional needs of the specific microbe to be cultured.

1. Aseptically add 500 mL/L M9 Minimal Salts (2X) medium to a sterile container.
2. Aseptically add the following sterile solutions to the container:
   a. 20 mL of 20% D-Glucose solution
   b. 2 mL of 1.0 M MgSO₄ solution
   c. 0.1 mL of 1.0 M CaCl₂ solution
   **Note:** Additional supplements may include: casamino acids, unnatural amino acids, heavy isotope labeled amino acids, trace metals, thiamine, antibiotics, etc.
3. Adjust final volume to 1000 mL with sterile H₂O and mix until homogeneous.
   **Note:** Different carbon sources and pH adjustment can also be used to complete M9 minimal media. If necessary, sterilize the final formulation by sterile filtration.

**Safety information**
Read the Safety Data Sheets (SDSs) and follow the handling instructions. Wear appropriate protective eyewear, clothing, and gloves.

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**Explanation of symbols and warnings**
The symbols present on the product label are explained below:

- **Manufacturer**
- **Batch Code**
- **Temperature Limitation**
- **Use By:**
- **Catalog number**
- **LOT**
- **REFERENCE**
- **Copy instructions for use**
- **Caution, consult accompanying documents**
- **STERILE A**
- **Sterilized using aseptic processing techniques**

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References


For additional technical information such as Safety Data Sheets (SDS), Certificates of Analysis, visit www.lifetechnologies.com/support
For further assistance, email techsupport@lifetech.com

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